Report of the Foreign Advisory Board

Appointed for Denmark, Sweden and Norway, in Answer to the Questions Asked by the Foreign Relations Committee of the National Association of Dental Faculties Through Its Circular Letter.

1. Give a very brief condensed syllabus of the laws regulating dental practice in each country represented by you.

Every one who wishes to practice dentistry in Sweden must be twenty-one years of age, have passed his final examination (maturity) from the high school (gymnasium) to the university (The Royal circular of 1897) and passed the two examinations which now (after 1898) are to be passed at the Dental Department of the Royal Caroline Chirurgical Institute of Stockholm. In Sweden legitimate physicians (M.D.'s) are also allowed to practice dentistry.

Women have the same rights and privileges as men in regard to the study and practice of dentistry.

2. A statement of what is the licensing power.

The Royal Medical Board (Kongl. Medicinalstyrelsen).

3. What qualifications are demanded from native, and what additional ones from foreign practicing dentists.

For native dentists, see under No. 1. For foreign dentists, the course of study may be shortened according to governmental dispense, depending on circumstances. The final examination is obligatory.

4. A complete list of the institutions that teach dentistry.

The Dental Department of the Caroline Medico-Chirurgical Institute of Stockholm is the only institution teaching dentistry in Sweden.

5. Whether or not each institution has state recognition.

The Caroline Medico-Chirurgical Institute and its Dental Department are state institutions.

6. Whether it is a segregated school, a department in a university or has other affiliation.

It is a department in a university.

7. The name and address of the head of the dental school or dental department, the number of teachers engaged in teaching dental classes, with the branch of instruction which each covers, and whether it is clinically or didactically imparted.

The dean is Prof. O. Lindstrom, Malmskilnadsgatan, Stockholm. The teachers are eight. The instruction in the natural sciences and medicine is given by five professors at the Caroline Medico-Chirurgical Institute. The teachers at the dental department are three; one in dental surgery, one in operative dentistry, and one in dental prosthesis and orthodontia, each with one of two assistants. The instruction is as much clinically as didactically imparted.

8. The preliminary qualifications demanded for matriculation.

Every one wishing to matriculate at the dental institution shall present himself before the dean and produce certificate of birth, testimonials as to moral character, etc., from his clergyman and certificate from a high school proving that he has passed his final examination. In this certificate he must have good marks in mathematics and physics, or have passed special examinations in these subjects.

9. Whether or not a part or the whole of its instruction is given in common with other departments.

The instruction is given in special courses for the dental students. (Compare 7.)

10. The number and length of the obligatory semesters or terms.

The course comprises three years, each of eight months, and divided into two terms. Herein is not included the summer practical course, which is not obligatory.

11. The character of its didaction instruction, and what studies are obligatory.

The theoretical instruction is given by lectures, illustrated by adequate demonstrations (in anatomy by dissections). All the subjects above mentioned are obligatory.

12. The exact character and amount of the practical instruction given, and how much is obligatory.

The practical instruction is given during two years at the dental polyclinic and laboratories of the dental department. The course provides daily polyclinic at least one hour, and at the filling branches five hours every day. The students are divided into two alternating groups for the prosthetic and the clinic work.

13. What clinical advantages each school offers, and if there is any sufficiently attended dental infirmary.

The polyclinic is amply sufficient for the students, being visited by ten thousand to twelve thousand patients yearly.

14. The number, character and scope of the examinations in both didactical and practical departments.

The odontological examinations are two, one theoretical or the dental candidate examination, comprising the natural sciences and general medicine, and the other practical, or the examination for becoming a legitimate dentist.

In the first, or theoretical examination, the student is examined in chemistry, metallurgy and materia medica; anatomy; histology and embryology; physics and physiology; general pathology and bacteriology.

The final or practical examination consists in partly verbal and partly practical proofs in the following subjects: General and oral pathology, oral surgery, operative dentistry, operative technics, prosthetic dentistry including orthodontia.

The first examination is given at the Caroline Medico-Chirurgical Institute, by the five professors of the different chairs as examiners, before an examining board consisting of the dean (inspector) as chairman, and two professors chosen yearly from the medical faculty.

The second or final examination is given by the professors of the dental department and the professor in general surgery of the medical faculty as examiners, before an examining board, consisting of the inspector (dean) as chairman, and two practicing dentists chosen yearly as censors.

The practical proofs are given before the same board, and comprise, first, clinical; second, operative dentistry; third, prosthetic dentistry including orthodontia.

15. What diplomas, certificates or degrees the dental school confers on the finishing of the course as a qualification for practice.

When the student has passed his second examination at the dental department, he receives a certificate and is referred to the Royal Medical Board, of whom he receives his diploma as legitimate dentist.

Preliminary Educational Requirements for Matriculation—Maturity Examination in Sweden.

Written Examination.

A. Classic line. A. (Latin and Greek.)

1. A paper composed in the mother tongue on some given subject within the range of the general education and the scientific knowledge, which this institution has for its object to teach. This paper has to be writ-

ten in faultless language, and with consistent arrangement and development of the treated subject. No help or books allowed.

2. Translation from the Latin to the mother tongue. No books allowed except a Latin-Swedish dictionary.

3. Translation from Swedish to German. No books allowed except a (smaller) Swedish-German dictionary.

4. Translation from Swedish to French. No books allowed except (smaller) Swedish-French dictionary.

B. Classic line. B. Latin and English obligatory.

1. See A 1.

2. See A 2.

3. A mathematical paper satisfactorily treating at least three problems.

4. See A 4.

Note: The Swedish-French translation may be exchanged for a Swedish-German translation.

ENGLISH LINE.

1. See A 1.

2. Translation from Swedish to English. No books allowed except a Swedish-English dictionary.

3. A mathematical paper satisfactorily treating four problems of geometrical or analytical contents (at least one or each kind for approval). No books allowed except tables of logarithms.

4. A mathematical paper satisfactorily treating four problems of algebraic contents.

5. See A 4.

Note: Either the Swedish-English or the Swedish-French translation may be exchanged for a Swedish-German translation.

6. A paper on physics satisfactorily treating at least one subject of mechanical or physical contents.

B. ORAL EXAMINATION.

A. Classic line A.

1. Religion. a. Church history. b. Dogmatics. Non-Evangelical Lutherans are excluded.

2. German (seven years' course). Translations *ex tempore*. Grammar Conversation.

3. English (non-obligatory), two years' course, some knowledge in translating and pronouncing less complicated readings.

4. French (six years' course). Translation *ex tempore*. Grammar. Conversation.

5. History and geography. a. General history (especially from the beginning of the sixteenth century up to the present time). b. Swedish his-

tory (especially from the beginning of the sixteenth century up to the present time). c. The outlines of the Swedish constitution. d. General geography.

6. Philosophy. a. Psycology. b. Logic.

7. Mathematics (nine years' course). a. Algebra equations with one or more unknown quantities. b. Problems. c. Geometry.

8. Latin (six years' course). Cicero: several orations; Livy: several books; Virgil's Æneid: two books; Horatio Odea: one or two books; Roman antiquities. Translation *ex tempore* from literature at first sight.

9. Greek (four years' course). Some books of Xenophon's; Anabasis: three or four rhapsodies; Homer's Iliad or Odyssey.

10. Physics (four years' course).

B. CLASSIC LINE B.

1. See A 1.

2. See A 2. Somewhat lesser requirements.

3. English translation *ex tempore*. Grammar. Conversation.

4. See A 4.

5. See A 5.

6. See A 6.

7. See A 7.

8. See A 8.

9. Natural history, zoölogy and botany.

10. Physics same as A 10, somewhat greater requirements.

ENGLISH LINE.

1. See B 1.

2. See B 2.

3. English (six years' course). Translation *ex tempore*. Grammar, Conversation.

4. See B 4.

5. See B 5.

6. See B 6.

7. Mathematics, see B 7, analytical geometry, plane trigonometry, stereometry, problems.

8. Natural science. a. Natural history. 1. Human body. 2. Hygiene. 3. Animal and vegetable physiology. 4. Botany. 5. Zoölogy. b. Physics (six years' course). c. Chemistry, organic and inorganic. d. Mineralogy and geology.

Arsenol.

By Dr. C. E. Sommers, D.M.D., St. Louis, Mo.

Recent investigation among the newer remedies has brought to my attention an arsenious acid preparation manufactured by the Tschirner Dental Manufacturing Company, of St. Louis, under the name of "arsenol." Before proceeding to give clinical results, I will at first outline in a few words the principle upon which arsenol is based, in order to show that in this preparation we have a new and original method of employing arsenious acid in dentistry.

Taking into consideration, firstly, that arsenious acid is almost universally employed in its undissolved state as either "paste" or "fibre," and, secondly, the solubility of arsenious acid (1.30 parts of water, U. S. P.), it immediately becomes apparent why the old-style "paste" or "fibre" remained uncertain in action when sealed within the tooth cavity under exclusion of moisture. In other words, the impossibility for the dental pulp to furnish thirty times more water than the quantity of arsenious acid applied is proven by the presence of the "paste" or "fibre" within the tooth cavity after twenty-four or forty-eight hours time and more.

In order to do away with the uncertain action as outlined above the Tschirner Manufacturing Company has placed upon the market a chemical preparation in the form of a glycerol of arsenic combined with powerful anodynes. The importance of using a preparation of this character may be best described as follows:

1. We obtain thereby an arsenious acid in a state ready for immediate absorption by the living tissue.

2. A preparation which allows the use of a far less quantity of arsenious acid than can be employed in any other way, and

3. A preparation which will devitalize the dental pulp in a far quicker and more painless manner.

Following directions, arsenol is applied on a small pellet of cotton about pinhead size and inserted within the tooth cavity in the region of the pulp and sealed directly with stopping or cement. After about twenty-four hours or less we find the cotton fibres, upon which the arsenol was applied, dry or nearly so, and the pulp totally devitalized, showing how readily arsenol is absorbed by the living tissure.

A few typical cases showing the efficiency of arsenol are the following:

Case 1. Mrs. C. presented herself in my office with a case of acute pulpitis in the right second upper bicuspid. Pulp still covered with a fair amount of bone tissue. Following the application of arsenol, I removed the pulp after twenty-four hours time without the slightest degree of pain to the patient. Patient claimed that the application of arsenol was practically painless, and expressed surprise at the absence of anticipated pain.

Case 2. Mr. M. presented a typical case of chronic pulpitis in second left upper molar, with slight exposure of pulp and intense pain. No pus as yet. Removed the pulp with gratifying results to both the patient and myself in less than twenty-four hours following the application of arsenol. In both the first and second cases the pulps were extirpated without tearing, due, as the maker claims, to the peculiar action of the arsenol.

Case 3. Mrs. G. presented herself suffering intensely, with a true case of purulent pulpitis in the first left upper molar. Examination showed the posterior buccal root filled with putrescent matter and the remaining root canals filled up with highly inflamed pulp tissue. After properly preparing the tooth cavity I applied arsenol in the usual manner. To my surprise the patient declared, on returning to my office next day, that she had slept peacefully for the first time in a week. Examination disclosed that the inflammation had greatly subsided and the contents of the root canals totally devitalized and practically in an aseptic condition, due to the powerful antiseptic or rather embalming properties of arsenious acid in its active state.

To sum up, we undoubtedly find in arsenol a new and valuable preparation developing results such as have never yet been accomplished by any other method in which arsenious acid was employed.

Peroxide of Sodium.

By H. W. WILTBERGER, D D.S., Allentown, Pa.

In reading through the ITEMS OF INTEREST for January, 1901, I encountered an article entitled "The Use of Peroxide of Sodium," by Dr. Charles J. Peters, Syracuse, N. Y., which interested me greatly, as I have long sought a drug such as the above mentioned to take the place of twenty-five per cent pyrozone it, in my opinion, not being just

the thing for bleaching purposes. I was therefore, I say, greatly interested in the article of Dr. Peters', and determined to secure a package of peroxide of sodium and experiment with the same, which I did by mixing a portion of it with different drugs used in our profession, such as carbolic acid, creosote, oil of cassia, iodine, glycerine and various other drugs on a piece of glass.

I noticed in one portion of his article Dr. Peters says that, "As a dressing between treatments, I do not know of any drug used by dentists that may not be used with perfect compatibility."

I am inclined to believe that it would have been far better for Dr. Peters to have thoroughly studied or experimented with peroxide of sodium as to its compatibility with other drugs, which I am afraid he did not do, than to have made that particular statement above quoted, which he, no doubt, knew would appear in different journals and be read by ninety-nine out of every hundred dentists in this country, and the drug mentioned would no doubt be tried by nearly that proportion, for if any dentist uses peroxide of sodium in company with oil of cassia in the mouth, instead of first testing it on a piece of glass, thinking that they are compatible with each other I pity the patient. I had no more than combined the two when there was a most beautiful display of pyrotechnics, which would have done credit to the most experienced operator in the pyrotechnic line.

I do not wish to cast reflection upon Dr. Peters's good intent, nor do I wish to criticise any other part of his article, for I believe that if peroxide of sodium is understood and used properly, it is a most excellent drug for bleaching purposes, and I hope that Dr. Peters will not feel that I wish to do him the least injustice, but that my only desire is to do other men a kindness.

Are Air Chambers Useful?

By Prof. J. B. Willmott, Royal College of Dental Surgeons, Toronto.

By "air chamber" is meant an excavation in the palatal surface of the base of an artificial denture which shall prevent contact, over its area, with the mucous membrane of the mouth. The question in dispute seems to be, "does such a chamber give greater permanent stability to the denture than simple contact over the whole surface?" After an experience of forty years I have no hesitation in saying, that in my judgment, an air chamber, when intelligently used, is of decided utility. Certain conditions are, however, essential. First. The air chamber should be placed on the horizontal portion of the palate and not on the vertical. Second. It should include the center of pressure of the denture, which may be stated generally as at the intersection of lines drawn from the tuberosity on one side to the location of the first bicuspid on the other. Third. The form, size and location of the air chamber should be such that its periphery does not impinge on the angle formed by the palatal and alveolar processes, in the region of the second molar, where the tissues are usually soft and flabby. Fourth. The chamber is best and most neatly made by using the metal forms which are of even thickness throughout, of regular outline, approaching an oval in form and not more than one-sixteenth of an inch in thickness. Fifth. That the margin of the air chamber should be definite and in close contact with the mucous membrane throughout its whole circumference. If these details are followed we have a chamber the whole circumference of which rests on tissue of

practically the same density and consequently fits so closely that it can be partially exhausted without danger of the air re-entering. The advantages claimed are twofold. First. Assuming that the chamber has an area of three-fourths of a square inch and that one-third of the air may be exhausted permanently, that is, until the denture has in some way been displaced, then over the area of the chamber we have one-third of the theoretical pressure of fifteen pounds to the square inch, or say about four pounds of actual pressure. Second. Over the entire surface of the denture, if it is at all accurately adapted, this actual pressure of four pounds will secure such close contact as will give greater adhesion than could possibly be secured without the chamber. The main objection is that the chamber will fill up. If the thin air chamber form, of even thickness, is used in making the chamber this does not result, though it certainly will if a deep chamber is used. It is an abuse, and in no sense a proper use, of an air chamber to place it on the vertical portion of the palate, or to make it an eighth of an inch in depth, or more, or to make it of irregular outline, or of triangular, or heart shape. I have never used an air chamber that I have regretted it and I have seldom omitted it that I was not sorry.

One Result of Vacuum Chambers.

By F. STANWOCD WELDEN, D.D.S., Borough of Brooklyn, N. Y.

Becoming quite interested in the articles of the January number of ITEMS OF INTEREST, in regard to vacuum chambers, I take the liberty to briefly describe a case that came under my attention.

Mr. M., a gentleman of fifty-five (55) years of age, presented himself at my office, complaining of a constant flow of pus at the palatal neck of the right superior sixth year molar.

He still retained the superior sixth and twelfth year molars, on both sides of the jaw; other deficiency being supplied by an artificial denture, on black vulcanite.

Upon removing the denture, I observed a puffed and swollen condition, about the area of a dime, at the right posterior portion of the imprint of the vacuum chamber on the palate, and directly in line with the palatal root of the molar.

I at once suspected necrosis, but as a brother dentist had diagnosed an abscess of the molar, I determined to ascertain the facts.

I removed a large amalgam filling from the anterior portion of the tooth and found it alive and healthy.

A careful examination of the involved region and all other symptoms corroborated my suspicions of necrosis.

The denture was made with a very deep vacuum chamber, having the edges very sharp, not being trimmed or beveled in the least.

The mucous membrane of the palate had not, nor do I think could possibly have filled the space of the vacuum chamber, as we often see in our daily practice. It was very obvious to me, that the constant motion, and drawing of the vacuum chamber, had caused a separation of the palatal tissue from the palatal bone, and by protracted irritation, had caused a plain and typical case of necrosis.

The patient is now undergoing treatment, and when cured, I intend to insert a denture with no vacuum chamber whatever.

The Retention of Full Upper Dentures.

By PAUL W. HILLER, D.D.S., New York.

There is one point in particular, which, to my mind, has either been overlooked, or in all probability considered unworthy of note by almost every one of the esteemed contributors of January, 1901, issue of the ITEMS OF INTEREST. I refer to the proper articulation of the teeth.

In my experience, which extends over a period of fifteen years, I have had considerable practice in prosthetic work, and have found that no matter how judiciously the air chamber metal may have been placed upon the cast, carefully trimming the cast and relieving the hard parts, etc., when placed in the mouth, one could hardly move the same. Until the lower jaw is brought in contact with the denture, all suction is of no avail, if the teeth are not properly articulated. A molar or bicuspid in fact any of the incisors, striking in advance of one another would break the most perfect suction; also causing nine-tenths of the breakage of plates.

In conclusion, I will add that, to my mind, the essential factor necessary for the retention of full upper dentures are, firstly, perfect impression; secondly, correct bite; thirdly, proper articulation of the teeth.

Retention of Dentures.

By N. E. Lutz, Indianapolis, Ind.

This article is not to condemn the teachings of others, as it is remarkable what results can be attained by varying methods.

Call it what you will, air chamber or relief space, either is good. My opinion is that an air or vacuum chamber is only a temporary expedient, especially if the person has never worn a full denture before. We will assume that we have placed in the mouth of the patient full upper and lower dentures, using an air chamber. We now tell the patient to put the tongue in the center of upper denture, close the lips and suck the air into the mouth and swallow. The superior maxilla and upper denture have in the meantime become completely covered with saliva. Adhesion and suction have united their forces, and retention is established.

We now look at the lower denture. The first force, gravitation, is exerted, and then adhesion. The patient tries to talk, but the tongue is too long and seems to be crowded, and its environments compel it to assume a different aspect.

We now pass to superior and inferior maxilla from a buccal and labial view. Including the alveolar ridge, the muscles in this vicinity must assume a different aspect, and being voluntary, unconsciously the training of muscular motion goes on, and the patient congratulates herself and praises the dental surgeon. I think we could easily say salivary adhesion, as without the saliva there would be very little adhesion.

I attribute success to the following: In the upper denture, faultless impression, exact articulation, salivary adhesion, suction, muscular motion and a quota of tenacity on the part of the patient. In the lower denture, gravitation, adhesion, muscular motion and tenacity.

Vacuum Chamber Satisfactory.

By Dr. W. P. Burt, Atlanta, Ga.

Difference of opinion upon using "air chambers" to retain upper dentures has existed for many years. I attended the Baltimore Dental College in 1867. Philip H. Austin, Professor of Mechanical Dentistry, opposed "air chambers" and said: "They were only useful to mark the unskilfulness of the operator." While Dr. Gorgas, who was then Dean of the Baltimore Dental College, favored them. He said they did no

harm, and aided in holding up the plate until the patient was used to wearing it. In the last thirty odd years I have made many plates—some with, and some without "air chambers." I do not see how anyone who advocates "relief spaces" can object to "vacuum chambers," for really there is no difference, for the "air chamber" is always located on the hard palate just where the "relief spaces" are located.

More than three years ago I extracted my own upper teeth, took my own impression with plaster and made me a set of teeth that gives perfect satisfaction; in fact, I have not eaten a meal or slept a single night without them since they were made, and I have an "air chamber" in the plate.

I think much more really depends upon the careful articulation of the upper set to the lower teeth, real or artificial, than upon "air chambers" or "relief spaces." Perfect adaptation, tooth to tooth, is of more importance, assuming, of course, that the plate has been made from a correct impression, and flask not opened until thoroughly cold.

A Correction.

Editor ITEMS OF INTEREST.

Dear Sir—There are two unfortunate errors in my paper. I am made to say that in the flat, ridgeless cases, I succeed better with rubber than with metal plates. It should be the reverse, metal plates being most successful.

Then I was made to say this principle of "relief" applies in the use of rubber, gold and "coin silver." What I said was continuous gum, but had abbreviated "con. gum." The advocates of vacuum cavities would consider them very essential in this heavy work.

Dr. Snow's article has the whole thing in a nut shell, viz., do not allow the plate to rock over the hard center of palate. It is on this principle alone I have avoided the use of vacuum cavities in the true sense of the word, for I have found that the plate adheres just as well without the "relief" provided it does not rock over the center. It does seem as though twenty-five years experience without the vacuum cavity, after thirty years use of it, ought to demonstrate the principle of non-necessity of its use, and that too in the use largely of continuous gum.

This vast diversity of opinion of experienced men must cause the student to feel as the old darkey did at the camp meeting. The preacher said, "Dis road leads to hell, and dat one to damnation." His hearer jumped up and said, "If dat be de case, dis darkey takes to de woods."

L. P. HASKELL.

Modeling Compound vs. Plaster.

By Dr. J. C. Wright, Russiaville, Ind.

I have had over twenty years' experience in making artificial dentures. For ten years I used plaster for impressions exclusively for full dentures, and for twelve years I have used modeling compound exclusively, finding a much greater degree of success with the latter method.

In taking an impression with plaster, a soft flabby ridge finds an exact reproduction on the model, which no man can scrape off with precision enough to insure an equal pressure of the plate on the palate and ridge.

In taking an impression for an upper denture with modeling compound, if the material is softened so as to make a sharp impression, and yet left hard enough to require quite a little pressure, the soft parts of the ridge will be pressed up against the hard parts, and a model made from such an impression, needs no uncertain paring or scraping.*

I do not accept an upper impression as satisfactory until it clings to the mouth requiring considerable exertion to remove it. I have never had a rocking plate from a good modeling compound impression.

*The same is true of plasters used at the proper degree of stiffness.—Editor.

A Reply.

By Dr. C. Edmund Kells, New Orleans, La.

Dr. Richard Summa, in the December Items of Interest, takes the writer to task for "attacking the Angle system," in a paper appearing in the September issue of that journal.

The *raison d'être* of the paper in question was as follows: Upon its issue from the press some two years or so ago, of Dr. Guilford's "Orthodontia," the writer was struck with the marked incompleteness of the descriptions of certain appliances similar in some respects to those used in his own practice, and especially to the fact that the "salient features for assuring successes" in their use, were not even mentioned.

Having for many years used these appliances in most cases in his own practice, he concluded that it might be well to illustrate a few of such for the Orthodontia number of Items of Interest when its editor requested a contribution for that issue.

This paper, therefore, was not an attack upon the "Angle" or any other system, but rather a criticism upon Dr. Guilford's work, though its primal object was to illustrate simple appliances for use in correcting simple cases of irregularity, in the hope of assisting some other practitioners who might appreciate their advantages over those heretofore used by them.

However, as Dr. Summa has seen fit to contradict certain opinions expressed by me, relative to fixed appliances, I deem it advisable to reply to his criticisms.

That he would, by one stroke of the pen, obliterate these stated disadvantages by saying that they do not exist, does not in fact do so, and with all due deference to our critic, I not only re-affirm that they do exist, but can substantiate this statement by cases from practice, the opinions of others, and lastly, by expressed admittance of these facts by the author of the "Angle" system, the one which he appears to consider fills the entire field as far as Orthodontia is concerned.

While he dogmatically affirms that the loosening of bands cemented on to the teeth is due entirely to "lack of skill in fitting such bands," I am sure that this statement will carry no weight with it to the minds of the majority of his readers. I do not guage this disadvantage, and a great one it is, by my own failures only but by the failure of this work at the hands of men of well known ability which has come under my own observation, for I am free to admit that retaining bands destined to remain in place for one or more years (which is frequently necessary) do not always so remain when placed by me.

While we occasionally meet with a man, who never has a filling to fail, nor a tooth to break in its attempted extraction, nor has a crown come off, nor a bridge loosen, nor a filled root give trouble, for there are such fortunate creatures, still the very great majority of us belong to that unfortunate class to which all of these mishaps fall, and while Dr. Summa may belong to that class possessing the "average skill" necessary to insure his bands remaining in place indefinitely, such is not the case with most of us.

Description of Failures by Angle System.

I will now describe three complete failures in simple cases of irregularity, treated by the Angle system by other operators, which have comparatively recently come into my hands.

In the first, a superior lateral was slightly rotated and aligned, and a retaining fixture consisting of the cemented band and spur put in position, this work being executed by a man of acknowledged ability in a western city. Shortly afterwards the patient journeyed southward, and while on her way the band came off, and before she applied to me the tooth had returned to its normal position and the retainers could not be replaced.

In the second case, another lateral had been aligned by a dentist in an eastern city, and in this case also a band and spur were cemented upon the tooth as a retainer. Within a few weeks it came off, whereupon the history of the first case can be repeated here. The tooth was re-aligned, a retaining plate was put in, a duplicate given the boy to provide against accident (as is always done) and several months have now elapsed

and no trouble whatever has arisen. In this case the retainers are to be worn at least eighteen months, during which time there will not be the slightest danger of the tooth retracting, as there "are no bands to come off at an inopportune moment."

Case number three is most interesting, I am sure, to those who wish to compare our "simple methods" with the Angle system, in such cases.

Fig. 1 shows the model of a child where the centrals were erupting within the arch and articulating inside of the lower teeth. When the left central had partly erupted, and before the right central had shown itself, the child was taken to a dentist of national reputation in a northern city, evidently a firm believer in the Angle system, as he banded the central, and also the left molar, and fixed a lever from the one to the other, in order to rotate and extrude the offending central.

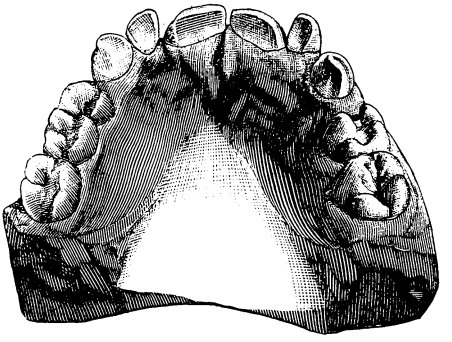


Fig. 1.

Shortly after this the child started homewards and he left the appliances *in situ*. In this case the bands did not come off; it would have been better had they done so, for when I saw her four days after she had left his hands, the poor little patient was suffering very much, and no good result had been accomplished. Naturally at this age the molar had but partly erupted and the bands upon both teeth extended under the gums, which were inflamed and painful about both teeth. The wire had pressed upon the gum tissue in the region over the cuspid to such an extent that it was completely buried in it, and naturally the child had not been able to eat with comfort or properly care for her teeth; furthermore the lever was badly rusted, of course.

The bands were at once removed from both teeth, the lever wire was drawn out of the gum as one draws a thread from the eye of a needle, the gum having healed over it; the gums were treated and the child sent away for the time being.

Later, a removable plate was made for her, something like the one shown in Fig. B, September ITEMS OF INTEREST, and the right central having by this time also started in wrong, both teeth were readily aligned without the slightest pain and with but little discomfort to the patient. When the case was corrected, the teeth then being well over the lower incisors, no retaining device was necessary.

I am confident that any disinterested operator would be willing to concede the superiority of the plate over the fixed appliance in this case, when both were tested side by side.

Again, while our critic insists that bands do not come off when put on by those possessing "average skill," this is evidently not the opinion of his mentor, as Dr. Angle distinctly states on page 152 (edition 1900) that "bands of German silver will give far less trouble by loosening than if made of gold." "Far less," note, not "no trouble." Page 156, same volume, he speaks of bands X X "with less liability of subsequent loosening."

Again, on page 169 X X, "Be inspected at least once in two months, for if they become loose," etc., and so on. So while Dr. Summa, the student, proclaims the impossibility of bands coming off, Dr. Angle, the teacher, repeatedly says they are liable to do so, and we may safely assume that he speaks from experience.

With this testimony I will close this point at issue.

Angle Appliances For Moving a Number of Teeth.

Our critic states that the Angle system is "the simplest and most efficient" in treating cases that require the movement of ten or twelve teeth, and while this is his opinion, I trust others may have the privilege of differing from him.

He states that the appliance cited in J' was "in its day very good." I will not contradict this assertion if he will admit that "its day" was a half century or so ago, but if he desires to bring that period down to less than twenty-five years, why, then I will object, and I trust I may also be allowed to have my own opinion in the matter.

If therefore J' is out of date, and there is no such case of mal-occlusion illustrated in the latest edition, are we to assume that he considers that out of date also? If so, we must again differ from him, as this typical V-shaped arch is still to be found in the practice of others, though not shown in Dr. Angle's latest work. But if this is a wrong assumption, and the appliance shown in Fig. 126 (same edition) is intended to be the simplest and most efficient for the correction of such cases, why, then it may be claimed that there may be a difference of opinion as to what constitutes a "simple appliance." For while the "obsolete" one which was "very good in its day" consists of six bands with the tubes

and nuts, two bars, one spring, and one rubber band, a total of ten separate elements, the new and modern one is shown to consist of no less than fourteen pieces, and is then not complete for the work represented, as probably a half-dozen or more parts will need to be added later for the rotating of the cuspids which is evidently necessary.

With all due deference to our critic, I must repeat, that I believe most operators will agree with the statement that the appliance as described in the case illustrated by me is decidedly more simple than the Angle system designed to accomplish the same results. As both have been illustrated our readers can decide for themselves.

One would judge from the tone used by our critic that the writer was violently opposed to the use of fixed appliances under any circumstances. This is not the case, as for certain cases they are considered more satisfactory and have always been used by him. He evidently overlooked the following in the paper in question: "Each of these systems (that is, the fixed and removable) has its advantages and disadvantages, and it remains to be decided in nearly every case, which shall be selected by the operator," and again speaking of the removable plates: "When, however, one finds that the patient will not wear such an appliance, the remedy lies in adopting a fixed one"; again, page 654: "That this system (fixed) has some advantages, and should be used in certain cases I will admit."

This is proof conclusive that I am not confined to the use of removable appliances, but choose the one which in my judgment is best suited to the case in hand.

In my practice I have made it a rule not to become wedded to any single method or the use of any one material, for I believe the practitioner who has a wide range and selects wisely just what is best suited in every way to the immediate case in hand, does far more good to his patients than one who does not.

When I hear an operator state that he uses no gold in his practice for the filling of teeth, or another that he uses no amalgam, I believe in each case his patients would fare better in the hands of more broad-minded men.

In the cabinet that contains my models of cases of irregularity I find number one dated January 1, 1879, since which time I have had several hundred cases under my care, in most of which satisfactory results were obtained by the use of removable appliances, and the time saved by this method has amounted to hundreds of hours, no inconsiderable item to a busy general practitioner.

While I am aware that I am not "thoroughly acquainted with all of the methods used by Orthodontia specialists," and very much doubt if

anyone else is, I do not attempt to detract from their accomplishments in the least, and freely admitted that there was no claim for any originality in the appliances presented.

If one is really interested in knowing how little really new has been produced in this field within the past twenty years, one has only to look up the older works upon the subject. In Kingley's work published in 1879 we find illustrated, clamped bands, practical expansion arches, jack and other screws, occipital anchorage, in fact, it were hard to find any feature in our appliances of to-day that is other than only a slight modification of what he describes, save only the phenomenal results accomplished by Dr. C. S. Case in tooth root movement by his own methods.

While our critic states that "simple appliances are devoid of fundamental principles," it appears to me they furnish secure anchorage—stationary anchorage to a large degree—and power for moving the teeth desired; what other fundamental principals may be found in the fixed appliances I fail to discover.

In conclusion I will repeat that based upon an experience extending over twenty-two years, I verily believe that many cases of mal-occlusion of the teeth may be more satisfactorily and quickly remedied by the use of removable appliances than by any of the fixed appliance systems, and I am aware that I am not alone in this opinion; and, further, that in his criticism of the illustrations of my paper, I concur in every point and I propose to take up that point at another time.

A Suggestion.

By Dr. J. Allen Johnson, Smyrna, Del

From the illustration (reproduced herewith), accompanying Dr. Beadle's article, in January number of Items of Interest, entitled "A Query," it is fair to presume the age of the patient to be about seven years. The sex of the patient was not stated.

Age and sex are among the primary considerations in Orthodontia; it being a recognized fact that the aesthetic requirements for the male are not so exacting as for the female, for the obvious reason that a man is able to hide a multitude of sins (in the dental line) under a moustache, while a woman, of course, cannot.

Granting our little patient will some day be a débutante, let us consider what should be done now to further her personal comfort and charm in the future.

The case presents, the first and sixth year molars and four permanent incisors erupted, the central incisors each being malformed to such a degree as to be known as "twins," the left rotated on its axis. While the cast of the occluding lower teeth is not shown, it is evident that the incisal edge of the superior left central will come into improper occlusion with the corresponding lower incisors, and cause their irregularity. For this reason it would be well to rotate the offending superior central to its normal alignment with its mate, and retain in this position with the Magill band cemented upon it with a spur bearing on the mesio-lingual surface of the right central. This procedure would place the tooth in its proper position in the arch, and next comes the consideration of what to do with the

valuable in determining the course of procedure. If possible, our first effort should be to save the crowns of the teeth, and as in this case there is a preponderance of crown, it would be well to remove one-half of the crown of the left central, which would reduce the space occupied in the arch by the two teeth to about normal. The fissures of demarkation on the labial surfaces of the crowns would naturally be the seat of early decay, in which case they could be filled, and thereby obliterated, with gold fillings.

I would say that I have among my patients a young lady who has a superior lateral (twin) filled in this manner, and it is very presentable.

Conservative practice would point to the preservation of the teeth, either whole or in part; and granting it to be inadvisable from an aesthetic point of view, to retain the malformed crowns, the roots would still be available for the support of the porcelain substitutes.

Amputation of Diseased Roots and Their Replacement by a Heteroplastic Operation.

By M. L. Rhein, M.D., D.D.S., New York, N. Y.

Read before the Second District Dental Society, December 10, 1900.

History of Root Amputation.

The amputation or excision of the ends of roots, or the amputation entirely of one of the roots of a multi-rooted tooth has been practiced in this country for at least forty years. It has been impossible to locate the originator of the operation. In fact there is very little record of it in our literature prior to the early eighties. Long before the complete excision of the end of a root was performed, the operation of entering through the process with a trephine, and with a bur in the dental engine, drilling away the diseased area of tissue, was quite well established. This, undoubtedly, led up to the more radical method of completely excising the end of the root, and, unquestionably, should be considered in the history of the operation.

In this connection Dr. J. N. Farrar's name is one of the earliest to appear in our literature, about the year 1880. I am, however, personally aware that, at this time, Dr. Wm. H. Atkinson was accustomed to perform this operation quite frequently, and had been doing it for many years. In fact, it was through my early relationship with him, that I learned to appreciate the great value of the procedure. It is peculiar to note that I have been unable to find any literary record of Dr. Atkinson in this connection. We find the operation referred to by Dr. Dunn, in England, in *The British Journal of Dental Science,* in 1884. In *The American System of Dentistry,* published in 1886, Dr. G. V. Black devotes a few pages to it with cuts illustrating the technique. Among other things he states that, at this time, 1886, the operation had been recommended for at least two decades. Since then, the subject appears more or less frequently in our records. In the last few years, it has received attention in Germany from Drs. Partsch, Hans Albrecht, Miller and

Paul Ritter, so that at the present time, the operation must be considered as one recommended and used by a large number of the best men in our profession.

Conditions Indicating Amputation.

Let us briefly consider what conditions call for the operation under consideration. There is very little doubt that excising the end of the root of a tooth is performed, in the majority of cases, for the radical cure of chronic alveolar abscess, especially where the apical end of the root has become entirely necrosed. In such cases, it has been discovered that there is no other means of curing the disease short of extraction of the tooth. At this point it may, perhaps, be well to say something in reference to the altogether too common practice of allowing teeth suffering from this disease to remain, untreated, in the mouths of our patients. The original attack has established a well defined fistulous tract, which now closes up at intervals, and again, at certain periods, re-opens and discharges its purulent contents into the mouth of the patient. These recurrent attacks appear without any great disturbance, and it is unnecessary for me to call your attention to the fact, that a large number of dentists are accustomed to tell their patients, "that nothing more can be done for such a tooth; that it is perfectly harmless and they can leave it in its present condition without any detriment to themselves." Is this good advice?

At the present day, with our knowledge of the irritating effects of pus upon the lining membrane of the intestinal tract, to say very little of the detriment to the system, produced by the gradual absorption of minute quantities of pus, should not this practice be specifically condemned?

In the November number of *The Dental Cosmos,* the editor has given two pages in the periscope, to an article by Dr. Wm. Hunter, taken from *The British Medical Journal,* on "Oral Sepsis as a Cause of Disease." In this article, Dr. Hunter takes the dental profession severely to task for permitting conditions of this kind to exist, not only without objection by the dentists, but actually through their connivance. In one place he says, in comparing such practice with recognized surgical work, "No physician or surgeon would tolerate for a moment that a patient with a foul septic ulcer, say in his forearm, should from time to time apply his lips to the ulcer to clean it. Yet this is—pathologically—precisely what happens in the case of patients with necrosed teeth and stomatitis. Moreover, the swallowing is constant, and goes on for years, unheeded both by patient and doctor." In another portion of the article, he mentions the fact, "This sepsis, moreover, is of a particularly virulent character, for it is connected with disease of bone (that is, of teeth); and

a somewhat extended pathological experience has satisfied me that no pus organisms are so virulent as those grown in connection with necrosing bone." The time surely has arrived when capable dentists should use every means to free the mouths of their patients from all pus producing sources. One underlying rule could be adopted with all forms of chronic alveolar abscesses: Remove every portion of necrotic tissue, and produce a radical cure or extract the diseased tooth.

Another indication for this operation has been found in what is known as blind abscess, which, although giving considerable trouble at various times, has never formed an open fistulous tract.

Our subject this evening, however, is more especially related to the operation of removing the entire root of one of the multi-rooted teeth, rather than excising a portion of a root. It is very likely that this form of amputation followed the method of simply burring away the necrosed tissue by a stage of evolution in the practice of operative dentistry. The same conditions that would impel removing merely a necrosed end of one of the single rooted teeth, are frequent indications for the removal of the entire root of one of the molars. We have, however, in this latter form of the operation, a much more frequent indication than simple alveolar abscess, viz., the various forms of pyorrhea alveolaris. This disease attacking, as it does, the vitality and integrity, not only of the pericementum, but of the alveolus itself, is productive of the major amount of oral sepsis that comes under our observation. When these cases present for treatment, they yield more or less readily to operative and therapeutic measures, according to the virulency of the disease, and the extent of pericementum and alveolus that has been destroyed. In the single rooted teeth, when all of the pericementum has been destroyed, and entire absorption of the alveolus has ensued, the root of the tooth is absolutely dead, and is cast from the mouth of the patient as a foreign substance, with the result that no more pus is produced at that point.

Unfortunately, this does not follow in the multi-rooted teeth. Here, one of the roots may reach the stage of absolute necrosis, losing its entire attachment on every side, and still the tooth may be retained in position by the remaining root or roots having a fairly good attachment and being entirely free from any suppuration. In such cases, no form of therapeutic treatment will succeed in stopping the continual flow of pus from the necrosed root. There remains only one cure, operative interference. This consists of two forms; one, the removal of the tooth itself, which is frequently a great loss and sacrifice; the other operation consists in amputating the necrosed root, and thus removing the dead portion of the tooth, leaving it supported by its remaining healthy roots.

This operation is one that should be preceded by the careful removal of the pulp contents from all of the canals of the tooth, which should then be hermetically sealed with a solid filling. It then becomes but a few minutes' work with a sharp fissure drill to cut through the necrosed root as close to the crown of the tooth as possible. It has been found that suppuration ceases immediately; that the hitherto loosened tooth becomes firm in the sockets of the remaining roots, and regains a usefulness that is little short of miraculous in the eyes of the patient.

In this respect, it is my desire to call your attention to the fact that many men who pride themselves that they remove such roots, and thereby greatly benefit their patients, frequently delay the operation to the detriment of the patient. It is altogether too common a practice to go on treating such a root for months; yes, even for years, and leave the amputation to the time when every vestige of gum has disappeared from the root, leaving it entirely exposed to the eye. The reason for this is the lack of time generally taken by the dentist for making an accurate anatomical diagnosis of the condition of the suppurating roots in pyorrhea alveolaris. Such examinations frequently result in surprising the dentist when he finds that he can pass a thin bladed burnisher around every side and even across the apex of the root from which the pus is discharging. No other conclusion remains but that this root is not curable, and must be removed at once, or the tooth extracted. Delay in such cases is only equivalent to the simile quoted before from Dr. Hunter, when he states that no surgeon would tolerate such a condition on any other part of the body. How frequently has procrastination kept such teeth in the mouths of patients until, a weakened condition having set in, other portions of the body become infected? It may be impossible at this time to actually prove such a result, but no modern pathologist can deny the strong probability of such results, provided a weakened condition of the system affords a favorable environment for infection.

Consequently, I place the greatest importance upon the fact that it is our duty to ascertain carefully (in the treatment of pyorrhea alveolaris), whether the roots of any of the multi-rooted teeth have become entirely dead, notwithstanding the fact that they may be more or less covered by gum. As soon as this is positively determined, the necrosed root must be removed.

After watching for years teeth which have had such roots excised, I have noticed that after some time, the remaining roots are very prone to decay, caused by the difficulty of keeping them as clean as they should be. The removal of such a root is at once followed by the entire loss of substance in that portion of the alveolar ridge. It is very difficult to avoid, in such cases, the formation of depressions, which act as natural

receptacles for food débris, which is often hard to remove. Consequently while the operation is extremely beneficial in prolonging the usefulness of the tooth, it lacks the permanent durability which we constantly seek.

Technique of Applying Porcelain Roots.

For many years, while removing necrosed roots from molars, which were still surrounded by gum, see Fig. 3-a, the thought has entered my mind that, if instead of leaving the stump of the crown in position, a perfectly aseptic, non-irritating and imperishable artificial root could be attached to the stump of the crown, thus replacing the amputated necrosed root, this procedure would not only greatly enhance the utility of the operation, but also would insure more durable results. This thought finally led me to some experimentation, and resulted in the operation which I have the pleasure of presenting to you this evening.

It has been my practice, since performing this operation, to remove a necrosed root in the morning, and immediately prepare from it suitable models, and construct therefrom a duplicate made from high fusing porcelain. This should be entirely finished by the same afternoon, so that the porcelain root should be attached to the tooth and placed in its gum socket within at least eight hours, and before any of the space has been lost by too much contraction of the soft tissues. The results of this operation have realized everything that I could possibly hope for; in fact, they have gone beyond my expectations.

The young lady whom I have presented to you this evening, and from whose upper molars the palatal roots have been removed and replaced by artificial ones made of porcelain, was presented before the clinic of the Odontological Society in April last. At that time, the left upper first molar was the only tooth which had been operated upon, as it was deemed advisable to postpone removing the palatal root from the right upper first molar, in order that the members of the society could see the great quantity of pus exuding from around this root, and, at the same time, have demonstrated to them with a thin bladed burnisher the fact that this root was entirely free from any attachment. The operation on the right upper first molar was performed immediately after the clinic in April. Shortly after that, the patient went abroad, and upon her return this fall, it was found that the gums surrounding these two teeth were in far healthier condition than any of the other gingivae. The patient suffers from a neurasthenic form of pyorrhea alveolaris, to which she is predisposed by her occupation as a governess. Local treatment has brought about in the last few weeks, a cure of the pyorrheal conditions of her mouth, but notwithstanding this fact, it is very evident to those who have carefully observed the mouth this evening, that the healthiest

gum tissue in the patient's mouth is that which surrounds these two porcelain roots.

It is not difficult to find a reason for this, when we consider that the gum surrounding the original necrosed root has been freed from the irritating effects of disorganizing bone tissue, and has been allowed to contract firmly against the aseptic and non-irritating thoroughly fused porcelain. This same condition of marked contrast in the clinical aspect of the gum tissues around the porcelain roots, as compared with the rest of the mouth in pyorrheal cases, has been noticed in every case in which the operation has been performed, and is the strongest corroborative evidence of the great value of the operation itself. Although the technique described has a history of not over a year at the present time, nevertheless, the continual careful observation of the different cases in which the operation has been performed leads us to say that all doubt as to its utility and durability have long since ceased. This is stated with extreme confidence, because every day's observation has tended to confirm the general healthy aspect of this particular portion of the mouth. Although at the present time, there is no record of any accidents happening to any of these cases, it is nevertheless a fact not to be overlooked, that the fillings joining these roots with the natural teeth are liable to need repair in proportion to the style of work that may be done.

With this feeling of confidence in the utility of an operation, that a little practice renders very simple in the dental office furnished with an electric furnace for baking porcelain, I am inspired with a desire to make as clear as possible the technical detail of the steps in the operation of replacing the necrosed root by its porcelain substitute. For this purpose, I will describe and illustrate to you in detail, the operation of heteroplasty following root amputation.

The pulp is entirely removed from all the root canals, which are then permanently filled as far as the pulp chamber. The main large opening in the crown should be filled with some temporary stopping that can be easily removed. The next step is the amputation of the necrosed root by means of a fissure drill revolving in the engine. (See Fig. 3-b.) The patient is then dismissed for about four hours, and cautioned to keep the mouth as aseptic as possible by the very free use of a suitable antiseptic wash.

The entire amputated root is now covered with a thin film of paraffin, in order to allow for loss of substance due to whatever root absorption may have taken place. The impression of the root is now taken in two parts, as it has been discovered that by baking the artificial root in sections, shrinkage of the periphery of the root is avoided, and a much better facsimile of the natural root is obtained. This is done by first

taking an impression of about one-half of the root (as seen in Fig. 1). Two wooden pegs are placed at either end of the model parallel to each other so that the entire impression divided as it is in two sections can be easily separated. The pegs should be pointed so as to find their places easily. The model of the other half of the root is made by pouring plaster over the first model, which has been previously varnished. The two parts are separated and the root removed from the plaster, the second model presenting the appearance as shown in Fig. 2.

Two suitable pieces of platinum foil, having first been annealed in the electric furnace, are carefully burnished in the impressions of the

Fig I.

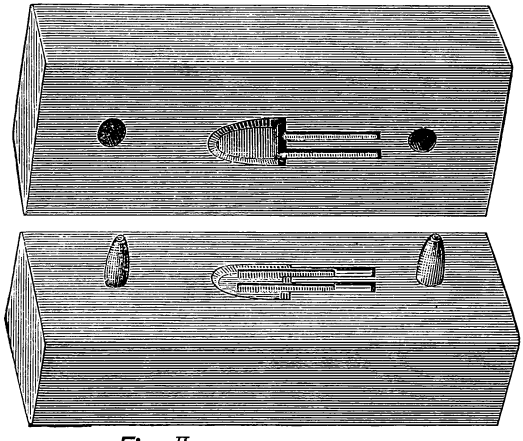


Fig II.

sections of the root, and these form the matrices in which the porcelain is baked. The matrices are stiffened by baking a thin film of porcelain in them, and then reburnished in their original impressions. The baking of the root in two sections is now proceeded with in the same manner as if two separate porcelain inlays were being baked, care being taken to avoid porosity. Around a square platinum pin, which is to anchor the root, is burnished a thin piece of platinum, the ends of which are soldered to form a box. The platinum box which is to hold the pin that enters the crown is placed in one section, which is not yet baked entirely flush. The pin should be held in the box while the porcelain body is being packed, and only removed just before this section is placed into

the furnace, in order to prevent the box from being damaged. The box should be left protruding beyond the porcelain in order to enable it to be more satisfactorily finished.

In our first operations a platinum pin was baked in the porcelain. In inserting a root made in this manner, although the results have been satisfactory, it necessitated too much cutting away of the side of the tooth in order to bring the pin into the crown cavity of the tooth. This has been obviated by substituting the box for the pin. When the two parts are completely baked, the sides which are to come together are ground even so that they will form a perfect joint. The platinum is then stripped from the half not containing the box, and the surplus of platinum of the remaining matrix wrapped around the stripped half in order to keep the two parts in perfect juxtaposition, having previously painted the approximating sides with a thin film of fresh body. It is then placed in the furnace and the two parts fused together. All remaining platinum

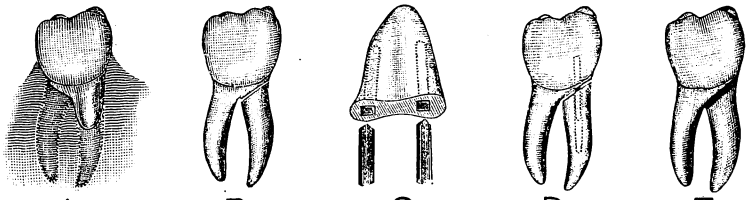


Fig III.

is now stripped from the root, and all protruding edges around the joint are ground away. The entire surface of the porcelain root is painted with a thin film of body and placed into the furnace for the last time in an upright position, and the heat is turned off just before the glazing state is reached. In broad roots, like the anterior roots of lower molars, two pins, and necessarily two boxes, will be found advisable. (See Fig. 3-c.)

Everything is now ready for permanently anchoring the porcelain root to the natural tooth. The old socket is thoroughly washed with a warm antiseptic solution. The artificial root being placed into position, and everything being thoroughly dry, the boxes are filled with cement into which the pins are placed having been passed through the crown cavity. (See Fig. 3-d.) The crown cavity is now packed with a suitable soft amalgam, which is forced between the artificial root and the natural stump, forming a serviceable joint. (See Fig. 3-e.)

The gum in its efforts to shrink contracts tightly against the porcelain root, holding it firmly in position, and thus preventing the entrance of any extraneous matter. We have now replaced a disorganizing organic material by an absolutely aseptic inorganic material, which cannot be acted upon by oral fluids.

Dental Gems From Paris.

By ALPHONSO RWIN, D.D.S , Camden, N. J.

Read before the Central Dental Association of Northern New Jersey, November 19, 1900.

Lest the New York Custom House officials should imagine that the United States Government had been defrauded by some one smuggling gems from Paris, it is necessary to make an explanation. There are two kinds of gems, material and figurative gems. This paper treats of both kinds.

But, while some gems have been brought from Paris, and in this instance no duty has been paid upon them, they were not carried on any person nor in any trunk. Neither was the stomach of a pet poodle dog utilized for the purpose of surreptitiously conveying dutiable articles into the country. The gems referred to were carried in the mind, and as there is no schedule of taxation imposed on such merchandise, there is no occasion for fear of the revenue officers.

You will soon discover that this paper is not written in the conventional style peculiar to essays read before dental societies. It is to be hoped that this departure from the moss covered track of our honored ancestors will not shock the tender sensibilities of any cultured D. D. S. It is not done with that object in view, but rather for the purpose of injecting a little spice into the subject. Please accept this manuscript as a sort of mental sandwich, which it is desired that you shall devour with a relish, and digest without effort or causing any frightful nightmare.

The Ladies of Paris.

The fact is, my fellow delegate and chum, Dr. — (spare his name and blushes. He is such a modest man that if he should hear this whisper he might collapse), became so giddy in Paris, blossomed forth into such a gorgeous dude, cut such a wide swath in the hearts and affections of those ravishing and exquisitely beautiful Parisian girls, that he kept me in a continual state of terror lest he should become callous to the

charms of all the dear girls at home, forsake his native land, locate in Paris and be lost to America forever; consequently one's mind was divided between the doctor and his girls, Paris and the Dental Congress. So that the mere thought of writing a scientific paper for such an intelligent, progressive body of professional men makes it seem like a stupendous undertaking, and it is to be feared that the effect on any listeners present may be attended with disastrous, if not fatal consequences. The image of the doctor and those bewitching damsels continually obtrudes itself upon one's vision and paralyzes one's thought whenever an attempt is made to write anything about Paris and the Dental Congress in an orthodox manner.However, the doctor has promised to be a "Good Boy" and take his wife along with him the next time he goes over.

When we come to the dry and tedious parts of our subject, just raise your feet high above your head, tilt your chairs back, shut your eyes, open your mouths and dream of those wickedly fascinating, voluptuous ladies of Paris—and—the—doctor. In the language of an eminent practitioner who complained that the paper read at a former meeting of this Society did not come to any conclusion, permit me to state that my second conclusion is that Dr. — is one of the "Dental Gems" from Paris. It took a steamer, however, to bring him over. No one's head is big enough.

Lest some member of this Society who is of a critical turn of mind has not brought his magnifying glasses along in order to bring into view the first conclusion, it is that these dental gems are not dutiable. It may be appropriate here to relieve your mind from any suspense, by announcing that my conclusions are duly labeled on the last page of the paper. Like the minister's sermon, we have a firstly, a secondly, a thirdly, and so on, only it brings up the rear in our procession of thought.

As an illustration of the light-hearted character of the Parisienne, a street scene occurs to me. While crossing one of the grand boulevards in the city of Paris, crowded with vehicles of every conceivable size, shape and design, I landed on one of those little islets in that great moving stream of life, in the center of the street, where you are free to recover your breath and watch your chance to dodge between the passing vehicles to the other side. While scanning the driveway for an opening, two charming looking young ladies, tastefully attired in the height of fashion, who had almost reached the other side, were run down by a heavily loaded dray, that unexpectedly appeared. One step more, and the huge draught horses would have knocked the ladies down, and the ponderous wagon would have crushed the life out of them. The whole thing happened so quickly that there was no time to shout a word of warning. The ladies were oblivious to the danger. Suddenly, as the horse was about to take

that fatal step, the lady nearest him looked up, and, instantly realizing her peril, sprang desperately forward, pulling her companion with her, and with such a look of terror on her face and such a startling cry, as one cannot soon forget, they landed safely out of harm's way as the horses and wagon dashed over the spot they had recently occupied. While still looking back at the place where they had so narrowly escaped the threatened danger, the expressions on their faces changed and they burst out into hearty laughter. The transition was instantaneous. They were so glad that they had escaped injury, that they must give immediate expression to their joy, and you might have supposed the whole affair was a grand joke gotten up for their especial benefit. The general effect of this tableau, for tableau it was, worthy of reproduction on canvas, was heightened by the exposure of two rows of beautiful symmetrical teeth, dental gems, or pearls, as the novelist calls them.

These gems adorn the person of the humble as well as the proud, and the rich as well as the poor. But, by a friendly provision of Nature, are found in their greatest brilliancy and perfection in the mouths of the poor and humble oftener than in the mouths of the rich and powerful. Enormous sums of money, unlimited sacrifice of time, endurance and even suffering would be cheerfully bestowed if they could effect a change whereby these natural gems could be transferred without blemish and appear permanently in the mouths of the rich, but such a transformation is impossible.

Right here the dentist setps in, and it is his business to take care of dental gems. He is the lapidary of the mouth. But while he cuts, polishes and treats dental gems, his calling is above the artificer who handles precious stones. He is a scientist; he is a professional man, and as such, humanity has some claim on his time and services.

We will mention dental gems that have been and still are made use of (literally) by dentists in some parts of the world at some time.

You have heard of diamonds in teeth; perhaps seen and examined them there. Some of you have doubtless read about the recent explorations of Cojan, the mysterious city of Honduras, where many ancient tombs were opened. It is said: "One fact of surpassing interest came to light, namely, the custom of adorning their front teeth with gems inlaid in the enamel and by filling. Although not all of the sets found have been treated in this way, there were enough to show that the practice was general among the upper classes."

Whether this report is true or false, there are no means of ascertaining at this time and distance, but something analagous to it is practiced by the modern dentist.

Diamonds in the Teeth.

In one of the main buildings of the Paris International Exposition a remarkable display of crown and bridge work studded with brilliant diamonds was located. It was included in a dental collection exhibited by a unique genius from the Western part of the United States. His hobby in the line of dental gems consisted in imbedding diamonds in gold crowns.

Many thousands of dollars' worth of these stones were utilized in various ways. They flashed from the labial surface of incisors, the buccal sides of bicuspids and the grinding surfaces of molars and bicuspids. The workmanship was good, but the ingenuity manifested was the more noticeable feature.

The gold crowns were made as usual; then a properly shaped hole was cut in them, the size suited to the diamond to be inserted and at the location desired. A gold retainer to secure the gem in place was soldered to the crown, the diamond was inserted and the gold burnished down closely in place. The finished surface of the crown was uniform, and the fitting of the stone perfect. The roots were previously prepared in the usual manner, and the crowns were cemented in position by the methods familiar to dentists.

The display in the mouth ought to be conspicuous enough to satisfy the vanity of the most capricious or exacting patron of that specialty. A gold bicuspid crown with a diamond imbedded in the buccal surface, in the manner indicated, was shown me in the mouth of a patient, which had been in constant use for about seven years. The work was represented to be perfectly satisfactory, and to last even longer than the ordinary crown.

The fees received for the work were from one hundred to twenty-five hundred dollars, according to the value of the gems and the character of the operation required.

The query presented itself immediately to one's mind: What is the sense in putting diamonds in the crowns and teeth? Upon investigation I learned that they were made to serve a useful as well as ornamental purpose, as the following explanation will prove.

At the point of contact in the articulation of the gold crown with the surface of the opposing tooth or teeth, one or more diamonds were inserted in such a manner that the bite was on carbon instead of gold. Two advantages were claimed as the result of this kind of contact. The gold crowns never were worn through, as the mastication actually occurred on the diamonds, and consequently they lasted longer than the ordinary gold crown. In the next place, the diamond presented a more effective cutting or grinding surface for the mastication of the food. We all know that the

pure carbon is the best cutting and grinding mineral for other purposes, and it seems reasonable that it would keep up its reputation in the mouth.

As many as three or four small diamonds were set in a single molar, the sulci of the crowns being utilized for the settings, and the irregular surface thus presented favored still more the comminution of the food than it would if the stones were imbedded in the prominent parts or cusps of the teeth.

Another result obtained by this method of setting the stones was that the point or cusp of the tooth antagonizing the gold crown came in contact with the diamond, and the wear, if any, on the natural tooth, would be where it could best afford to lose enamel. In reply to the question, "Does not the diamond wear away the natural tooth?" postive assurance was given that it did not abrade the enamel of the natural teeth any more than would occur in the ordinary process of mastication.

Public Dental Service.

You will now perceive that under a figurative title, a professional topic, the teeth, is designated, and the specific line of thought in regard to the teeth toward which your attention is directed is, "Public Dental Service." Some of us may find dental gems of thought in the consideration of public services rendered to the middle classes and the poor.

There are two kinds of public dental service: That which is paid for by contract or salary, and that which is given gratuitously. In the United States there is a vast field open for development in the work of rendering public dental service. In Russia public dental service appears to be in the embryonic stage of development, for Prof. Limberg, of St. Petersburg, in a paper read before the Third International Congress, presents a "Project for the Practical Organization of Dental Services in Primary Schools," in which he says: "Dental caries attacks ninety-five per cent of the teeth of children in the cities; it is therefore necessary that society should take measures that regular care be given to the teeth.

"Children's physicians, in calling the attention of the parents to the importance of the health of their children, in giving them regular and systematic treatment, would contribute powerfully to the progress and development of our project.

"General knowledge of the causes of dental evils, the means of preserving the teeth by regular care, ought to form a part of the teaching of general hygiene in the schools.

"As soon as children are admitted in the schools, attention should be called to the state of their teeth, and it should be exacted that the state should leave nothing to be desired.

"Palliative treatment and extractions, as practiced in schools now, ought to be replaced by conservative and systematic treatment.

"The internes ought to have a specialist to examine at least once a year the teeth of the pupils, and care for them regularly, if possible, in the establishment itself. The externes can content themselves with a dentist for examination; however, care ought to be given them outside the school by some good dentist or specialist.

"For poor children, there should be opportunity to organize treatment and care of the teeth absolutely free; this care can also be systematic.

"The remuneration of the school specialist ought to be estimated according to the number of pupils, in such a manner that systematic care of the teeth of the pupils can be exacted."

In these statements of Prof. Limberg, the necessity for, and the character of, the public dental services, are epitomized.

Some interesting and profitable information in regard to public dental service is contained in a contribution by W. J. Fisk, secretary, School Dentists' Society, of Edinburgh, entitled, "The Practice of School Dentistry in the Public and Poor Law Schools of England."

In England the salary paid to the official dentist varies from one hundred to five hundred dollars per year, according to the location and size of the school. The time devoted to the work consumes from half a day a week to all the time, with office hours from seven a. m. to three thirty p. m., and the number of mouths cared for varies from one hundred and fifty to eight hundred. In some schools no salary is paid, but the dentist sends a bill to the parents for his services, according to the following schedule of prices: Fillings, two shillings, six pence (62c.); scaling teeth, one shilling (25c.); extracting, six pence (12c.); the dental officer having also to provide his own office and equipments. Fortunately, these prices prevail in the Poor Law Schools of England. In the public schools, the dentist fares better. He may run up a bill of twenty-one dollars, or, if he has the written consent of the parents or guardians, he may charge more for his services.

Mr. Fisher, of Dundee, was one of the first to call attention to the need of systematic treatment of the teeth of the young people in British schools. Partly through his efforts, the British Dental Association appointed a school committee to investigate the subject and report to the members. As a consequence of their labor, the British Dental Association published complete statistics of the work.

The present condition of school dentistry is due to the moulding of public opinion by the school committee. The movement in favor of dental supervision in schools is increasing, and the future prospects are hopeful.

The public schools educate children of the upper and middle classes in England. Where some thorough arrangements for dental supervision have been made, the methods employed vary in different schools.

Marlborough College.

In Marlborough College all new boys must have their teeth examined by the dental surgeon at the beginning of the term. The dental services rendered in this college is worth quoting at length. New boys who are in the habit of being seen by a good dentist are advised to visit him, if necessary, at the next vacation; where several teeth are very carious, or are needing extraction, a chart is made out, and a report sent to the parents with a letter from the medical officers, forwarded by the wish of the head master, and an estimate of the fee is quoted. It is optional on the part of the parents as to whether the work is done at the college or not. A report is, if necessary, sent with the chart in the cases of all new boys who do not see a dentist regularly, and no work is undertaken for any new boys without the written consent of parents or guardians. Other boys desirous of professional attendance are considered as private patients, but the fees must not exceed four pounds, four shillings ($16.00) without the written consent of the parents or guardians.

The dental room is within the college and belongs to the medical officer's suite. The medical officer attends for all anesthetic administrations. The hours of work are from seven or seven thirty a. m., according to the time of the year, to three thirty p. m., with intervals for meals.

M. Baker, the dental surgeon who furnished these particulars, has attended at the college for the last eight years at the *invitation* of the head master. He is impressed by the fact that the boys going there now are very much better looked after, as regards their teeth, whilst at preparatory schools and before they pass through his hands, than was formerly the case. Nothing like the former number of extractions are now required. As a result of his experience here, he is strongly of the opinion that the sixth-year molars, if thoroughly filled when the patients are thirteen years old or over, will last splendidly, and except for overcrowding, keep all these teeth possible, as they will make most useful masticatory organs whether filled or crowned.

Wellington College.

M. Vernon Knowles, who has attended Wellington College for the past nine years, weekly, during term time, gives the following information. His rooms are outside the college buildings, these as well as the dental equipment being supplied by him. There is no compulsory attendance of new boys visiting him. At the same time, facilities are given to the boys for visiting their own dentists, if their parents so desire. The weak point is the lack of systematic inspection, not yet adopted here.

M. Vernon Knowles is strongly of the opinion that all new boys should be examined on entrance for the following reasons:

1st. Through neglect, fifty per cent of the teeth of the boys are in a bad state.

2d. Owing to the stringent regulations of the army and navy on this question, and because the officers are generally drawn from the public schools.

3d. It is important that a high state of dental efficiency be maintained, as it is not an uncommon occurrence for boys who have passed all their examinations, to fail in the dental test and be rejected on grounds of faulty dentition.

Felsted School.

In the Felsted school, the boys number two hundred and seventy. The office hours of the school dentist are from ten to twelve for conservative work, twelve to one for examination of new patients, two to four for conservative work again. Gas operations at three thirty p. m. on pre-arranged days.

In some of the public schools a high standard of public dental service is maintained. There is a systematic examination of the teeth of the boys. Failure to insist upon these examinations cripples the efficiency of the public dental system. Parents are advised as to the dental needs of the pupils, and a dental officer attends to their teeth. In other schools the importance of attention is being realized, and facilities are readily granted for the boys to have their teeth treated. There is a tendency in public schools to appreciate the value of the dentist's services.

In order to demonstrate still further the extent to which school dentistry is practiced in England, other quotations will be made.

Haileybury College.

In Haileybury College, a public school, a dental surgeon attends the school at regular intervals; the system of examination of the teeth of each new boy is carried out. For those requiring dental operations, a report is sent to the parents, indicating the condition of the mouth with an approximate charge for the necessary treatment. The head master, in a letter accompanying the report, suggests that the teeth be attended to before the boy returns for the next term, and stating that dental operations during term time must be performed by the school dentist. Anesthetics are administered by the medical officer.

Berkhampstead is an example of many public schools in England. There are about three hundred and thirty boys in it. There is a dental surgeon who, while not specially appointed on the staff, yet is known as the school dentist, and does all the work in connection with the school. The boys go to his private office when they require anything done, and at

the end of the term he sends in accounts to the different head masters. In this school compulsory inspection is not carried out, yet no difficulty is placed in the way of the boys consulting the dentist, and the authorities feel that they have done all could reasonably be expected, in seeing that the pupils have the services of a properly qualified dental surgeon.

Poor Law Schools.

In the Poor Law Schools dental surgeons are appointed to some schools, and not to others, and the guardians differ in the views they hold on the question of school dentistry simply owing to the pressure exerted by the number of the pupils and the presence of oral diseases, where the school has a large number of pupils, and the absence of this pressure where there are few pupils and few dental diseases requiring the services of a specialist. In a school of seven or eight hundred, like a district or large parish school, they must necessarily have a number of pupils suffering from dental diseases. The medical officer would be called upon so frequently to treat tooth troubles that he would feel the necessity for skilled assistance. Then again, the rejection by the naval authorities of numbers of boys would compel the governors of the school to consider the question of dental supervision. Consequently, the guardians would appreciate the good that could be done by a dentist looking properly after the teeth of the young people.

In a union containing few children the result of dental neglect would not be brought so vividly before the board, the medical officer and the guardians; however, the example set by the large schools in this respect is having a beneficial influence upon the smaller Poor Law Schools of the country. Nearly all of the district and parish schools of London have dental surgeons attached.

The methods employed in a few schools are typical of the whole system of school dentistry as practiced in the Poor Law Schools of England. The children number three hundred and seventy in the schools of St. Marylebone at Southall. The dental surgeon receives a salary of fifty pounds ($250.00) per annum for an attendance of half a day every week. In this school a complete equipment has been supplied.

St. Pancras Parish School.

St. Pancras Parish School has about five hundred children. The dentist appointed must attend once a fortnight. A thorough equipment is provided and reports must be sent half-yearly to the guardians. The salary is fifty pounds ($250.00) with luncheon. The guardians of Holburn Schools at Mitcham prefer to have the children attended to by a dentist at his own home. The salary depends upon the amount of work done. The rate allowed is, for fillings, two shillings, six pence (62c.);

scalings, one shilling (25c.); extractions, six pence (12c.). The dentist provides his own office and equipments.

There are two hundred and fifty children in St. George's in the East School. Salary, forty pounds ($200.00) per annum. The conservative work is done at the house of the dentist, but he attends the school at intervals to do extractions, scalings, etc. No regulation cases are done except from the choice of patient.

Training Ship Exmouth.

On board the training ship Exmouth there are six hundred boys from ten to sixteen years old, divided into six companies of one hundred boys each. Each company comprises two watches of fifty boys each. The dental surgeon attends every Tuesday from ten thirty to four thirty; a good dental equipment is supplied; salary, one hundred pounds ($500.00) per annum. One division of one hundred boys is seen each month, therefore every boy's mouth is inspected at least twice a year. New boys have their teeth inspected upon the first visit of the dentist. Operations are performed at the infirmary in the dental room.

Banstead Schools.

A dentist is appointed to the Banstead Schools. There are about seven hundred children divided into cottage homes. They do not receive the same regularity of treatment as on the training ship Exmouth. Many of the inmates are babies who require little attention, so that one afternoon's work each week suffices to do the dental operations required. The salary paid is seventy pounds ($350.00).

Central London Schools.

The Central London Schools have seven to eight hundred pupils, besides the ophthalmic section of two hundred and fifty to three hundred children. The dental surgeon receives one hundred pounds ($500.00) per year for a weekly visit of five hours; a complete equipment is supplied. Record books are kept at the school, and new admissions are inspected in the probationary ward. The opthalmic children are kept separately, and an assistant is allowed by the Board to look after them. He has a separate dental equipment and is paid a salary of fifty pounds ($250.00) per year for an attendance of six hours per fortnight. The dental surgeon is responsible to the Board for the dental condition of all the children, and the total salary then is one hundred and fifty pounds ($750.00) with two surgeries equipped, but the officer is allowed to provide an assistant.

In the provinces it is very difficult for any dentist to attain the high standard of the London Poor Law Schools because the salary is so small, and as a rule no dental equipment is supplied by the guardians. It is hoped, however, as the value of dental attention makes itself evident in

the improved condition of children's teeth, that the provincial guardians will equip their dental surgeons.

There was a strong disposition to establish a dental oligarchy at the Paris Dental College. The select few were inclined to think that they were above the general run of the dental profession, and from their assumed elevation to look down upon and dictate to others. There was also a display of hostility toward the admission and discussion of certain papers, and the performance of some clinics. Caste prejudice is not confined to India. Racial favoritism was strongly marked. The Latin race dominated the Congress, while the Teutonic, Slav, Anglo-Saxon, including the American races, were relegated to the rear in the majority of instances. Now it is evident to the most superficial observer that the pursuance of such a course can be carried too far and become obnoxious. It is also evident that one of the results is the division of the profession into two classes.

Generally speaking, if you accept class distinctions, there are three divisions which the dental profession naturally resolves itself into: One class who labor under the delusion that they possess an exclusive patent on the right to be called first class and charge big fees; second, the practical dentist who does the bulk of the work, and is in the greatest demand by the public; and a third class, the recent graduate who usually has unlimited time to spare, slender means and a reputation yet to materialize with his clientele.

It is evident that the dentist who renders public dental service must be satisfied with a small salary, and yet perform conscientious professional service. It should certainly be a desirable field for the last named class, the young and ambitious practitioner, to display his ability, and at the same time employ his spare time to some purpose.

The Situation in the United States.

Why is not the solution of the problem, "How to give employment to the large and constantly increasing number of dental graduates turned out by the colleges," to be found in their appointment for public dental service in the army and navy, public schools and other institutions of our country? It is worth trying. The young medical graduate is appointed to the hospital, dispensary and infirmary. Should he be favored any more than the dental graduate? Cannot the government be aroused to the necessity for appointment of trained dental officers in the large schools, hospitals, asylums, homes and dispensaries, as well as the army and navy of the United States, the same as it has been awakened in England? As the matter now stands, we are at least ten years behind Great Britain in this respect.

If they have not already done so, would it not be well for the National

Dental Association and the state dental societies to appoint committees whose special work shall be to arouse public sentiment in favor of public dental supervision, provide and push forward legislation favorable to the appointment of dentists for this purpose?

Uncle Sam has sixteen millions, seven hundred and thirty-eight thousand, three hundred and sixty-two pupils in his schools. Fifteen millions, one hundred and thirty-eight thousand, seven hundred and fifteen are in the public schools. What attention do their teeth receive? There are innumerable inmates in our hospitals, sanitariums, asylums, homes, infirmaries and dispensaries. How many of them have systematic attention paid to their teeth? There are over one hundred thousand soldiers in our army and thousands of sailors in our navy; what care is bestowed upon their teeth?

It is all right to have their eyes and ears and throats and noses and other parts of the body treated by medical officers, but the teeth that guard the entrance to the body whose function it is to lay the foundation for future physical comfort and usefulness, can open and shut in the performance of their duty and not receive adequate systematic repairs for the incidental wear and tear or for the ravages of decay. Is this right?

Are you aware that we are not only behind England in this matter, but also behind Russia, Sweden, France, Holland and other foreign countries?

The subject of rendering public dental service has been merely skimmed over. An attempt has been made to give you something to think about. The topic is as broad as the earth, as deep as the sea and as high as the loftiest mountain. You can go twenty-five thousand miles without reaching the end of it. You can descend the deepest mine in the bowels of the earth and not reach the depths of the subject. You can ascend an Everett of thought and not comprehend the philanthropy involved in rendering public dental service. It concerns the ruddy, rugged mountaineer and his poverty. It interests the miner with his pitiful wages. It appeals to the sensibilities of the population of the globe in some shape or other. Asia, Africa, Oceanica and America are yet to be heard from. In Europe, Russia has made a beginning; Holland and Sweden have really done something; France is systematically developing public dental service; England has reported the greatest progress to the Third International Dental Congress. Other countries on the continent are yet to be heard from. Where does the United States come in? Shall we be the tail-enders?

Where is the United States army that has a dental officer attached? Where is the United States ship or fleet even that has a dentist properly educated and equipped on board? Where is the military or naval academy that has a dental inspector appointed for duty?

Where is the hospital, sanitarium, infirmary, dispensary, insane asylum, home, college or public school that has a dentist appointed on its staff of officers, or even designated and known as the dentist of that public institution?

If you investigate the subject, you will obtain the following results:

"I would say that at present no dental surgeons are employed in the U. S. Army. A bill was introduced last winter authorizing their employment, and this bill was approved by me, but Congress failed to act favorably upon it. With reference to Soldiers' Homes, etc., I can give you no special information. Very truly yours,

"G. W. STERNBERG, Surg. Gen., U. S. Army."

"Bureau of Medicine and Surgery,

"Navy Department, Washington, D. C.

"SIR: Replying to your communication of the 6th inst., I have to state that there is no such grade in the navy as dentist, as there is no authority of law under which such appointment can be made. Very respectfully,

"J. D. GATEWOOD, Acting Chief of Bureau."

This disposes of the question officially as to whether dentists are appointed to serve professionally in the United States army and navy.

The following questions were forwarded to the superintendents of public instruction in the various states:

I. Do dentists render public dental service, by appointment or otherwise, in the schools of your state? Said service consists of examinations of teeth at regular periods, making out chart of decayed teeth and dental service needed and sending same to parents or guardians accompanied by the request that the teeth receive the necessary attention from the family dentist. If not by him, then authorizing the official dentist to do the work.

II. If dentists are appointed to supervise the teeth of pupils in the schools what salary do they receive and where does the money come from?

III. Do you favor the appointment of dentists to take care of the teeth of pupils in your schools? If not, why not?

Out of twenty-five answers obtained to these questions from different sections of the United States, six state superintendents of public instruction were non-committal in regard to the third question, as to whether they favored the appointment of dentists to take care of the teeth of pupils in the schools or not. Twelve were opposed to the appointment of official

dentists. Seven state superintendents were in favor of the appointment of dentists to take care of the teeth of school children.

All the states represented declared that school children had no dental supervision either from officially appointed dentists, or dentists nominally known as the school dentists. The communications were exceedingly interesting, but it would require another paper to discuss the replies received from these public officials, and this one is already too long.

"Department of the Interior, Bureau of Education,
Washington, D. C., Nov. 1, 1900.

"DEAR SIR: In reply to your inquiry of 29th ult., I will state that no report has been made to this office regarding the matter of dental service in the public schools of the United States either by official appointment or otherwise. Very respectfully yours,

"W. T. HARRIS, Commissioner."

REPLIES FROM THE STATES.

Arkansas.—Question No. 3—Do you favor appointment of dentists to care for teeth of pupils in public schools? Unanswered.

Colorado.—Care of the teeth should be under parental control and management instead of the school.

District of Columbia.—Question No. 3—Unanswered.

Florida.—Opposed to appointment of official dentists for taking care of pupils' teeth because we have not funds enough for teachers even.

Georgia.—Favors appointment of dentists to take care of the teeth of pupils in public schools.

Illinois.—I do not favor the appointment of dentists to take care of the teeth of pupils in public schools.

Iowa.—Question No. 3—No.

Kansas.—The plan has some merits, but is not practical.

Massachusetts.—Opposed to appointment of official dentists because caries is not contagious.

Missouri.—Do not think it necessary.

Montana.—If dentists are appointed, oculists and aurists should be appointed.

Nebraska.—I firmly believe it would be of great value if there were provision made for the examination of children's teeth at least once a year.

Nevada.—I think the responsibility should rest upon the parents.

New Jersey.—Favors medical inspection.

New York.—Question No. 3 evaded.

North Carolina.—Answer to question No. 3 evaded.

Ohio.—Answer to Question No. 3 evaded.

Pennsylvania.—It would be a great boon to children if their teeth could be taken care of by dentists specially appointed for the purpose.

Rhode Island.—The appointment of official dentists would usurp the functions of parents.

South Dakota.—Better to have oculists to examine eyes first.

Utah.—It is my personal opinion that some measures should be adopted for examining and preserving the teeth of the pupils.

Vermont.—I approve of such action most heartily in our cities.

West Virginia.—I am not prepared for giving my reason for not favoring it.

Wisconsin.—Such measures at this time in this state would meet with little encouragement.

Washington.—I see no good reason for objecting to such a law. Some might object on the principle of interference with their private affairs.

Charles J. Baxter, State Superintendent of the Department of Public Instruction of New Jersey, says:

"The school law contains no specific provision for the care of the teeth of children attending our public schools. Section 255, page 99, authorizes any local Board of Education to appoint and define the duties of a medical inspector. If such a medical inspector is appointed, the law provides that he 'shall at least once during each school year examine every pupil to learn whether any physical defect exists.'"

This should include any condition of the teeth liable to affect the general health of the child.

The salary of a medical inspector cannot be paid either wholly or in part from funds received from the state.

In spite of the character of the answers received from reliable and prominent officials, it is evident that there are two forces operating in favor of the establishment of dental services in the army, navy and public institutions in the United States. One force is agitation of the subject by the dental profession. The Section on Stomatology of the American Medical Association at least are doing something towards passing a law through Congress, authorizing the appointment of dentists in the army and navy to take care of the mouths of soldiers and sailors. The second force is the pressure exerted by the law of necessity, arising from the

urgent and frequent need of dental treatment in military and naval service and the public institutions.

When these forces become potent enough, all barriers will be forced aside, and official dentists will be appointed to take care of the teeth and mouth in our army, navy and public institutions.

In conclusion I would say that:

1st. The teeth are dental gems.

2d. Figurative dental gems. Diamonds in teeth may be useful as well as ornamental.

3d. Europe can give us some dental gems of thought and practice in regard to public service.

4th. The United States is not even in the embryonic stage of public service development.

5th. There is a vast field open for the employment of competent dentists in public service in the United States.

6th. Two potent forces destined ultimately to bring about the adoption of public dental service are: Agitation of the subject by the dental profession; pressure arising from the law of necessity.

Second District Dental Society—December Meeting.

A regular meeting of the Second District Dental Society of the State of New York, was held on Monday evening, December 10, 1900, at the residence of Dr. E. H. Babcock, 140 Remsen street, Brooklyn, N. Y.

The meeting was called to order by the President, Dr. W. J. Turner. The Secretary read the minutes of the last meeting, which were approved.

Dr. M. L. Rhein read the paper of the evening, entitled: "Heteroplasty Following the Amputation of the Natural Roots."

Discussion of Dr. Rhein's Paper.

The President. We have all heard with a great deal of pleasure this paper of Dr. Rhein. He has shown us how practical the subject is, by demonstrating to us the most beautiful work in the mouth. It is seldom, if ever, we see anything more beautiful, and I sincerely hope that due appreciation will be shown by the fullest discussion. The paper is now before you.

Dr. C. A. Meeker, Newark. I have listened to Dr. Rhein's paper, and am very glad I came over tonight. I have seen this case before, at the New York Odontological meeting, and as I saw it this evening, I was very much pleased with the appearance of the gum tissue around the second molar. While the operation seems difficult to us, Dr. Rhein has explained it so that those who have the use of an electric furnace for baking inlays, ought to be able

to do it in a little while very acceptably to their patients. Dr. Rhein has tried to be very explicit in his technique, but until the last moment, I did not understand how these pins were placed in the main portion of the tooth, until he explained that he cut down from the top. I am glad I found that out, because I was puzzled over it. There may be a case where the crown of the tooth is not decayed, like this second molar you have spoken of. I know how it is done now, because Dr. Rhein said he cut down on the marginal line to get the pin in. I also wish Dr. Rhein would explain how to make the boxes.

Dr. M. L. Rhein. I thought I gave a description of that in the paper. Around a square platinum pin, which is to anchor the root, is burnished a thin piece of platinum, the ends of which are soldered to form a box. We first pick out a suitable pin, and around this we burnish the piece of platinum to fit the pin, and then solder the ends.

Dr. C. A. Meeker. How thick is the platinum?

Dr. M. L. Rhein. About the heaviest you would use for an inlay; I should imagine about 60.

Dr. W. D. Tracy, New York. I have watched with no small degree of interest the progress and development of Dr. Rhein's system of supplying porcelain roots in cases where the roots of molar teeth had been seriously involved by pyorrhea. When he was wrestling with his first case, he was kind enough to explain to me the idea, and at that time, I must confess, I was rather skeptical about it, and I took issue with him in regard to the practicability of the method. I thought it was traveling a pretty long road for a very doubtful result. I am very glad that I saw the completed case, for I think the results he has gained are very beautiful, and now I leave it for someone else to take issue with him, someone who has not seen a completed case. I think the tissue would take more kindly to the porcelain root than it would to the necrotic organic root. I felt that it was an operation which would take some time before it would establish itself as a general thing among general practitioners. I do not mean to throw any discredit on the progress of dentists or their daring in taking up new things, because we all mean to do it, but while Dr. Rhein speaks of it as being awfully simple, I do not think it is. There is a great deal of detail and nice manipulation to get it nicely done. I think the technique was very clearly described in the paper. I intend to try it, and if I ever achieve such success as Dr. Rhein, I shall feel repaid for the attempt.

Dr. R. C. Brewster. When I saw the operation at the New York Odontological Society, it did not impress me with as much importance as it does now, in the light of

subsequent events. At that time, I was rather inclined to believe that the tissue would sustain some absorption, which, however, tonight shows was not the case. I think no absorption has taken place, as I can remember. It seems to me to be identically in the same position it was in last spring. Although there was no pus at that time, I thought there might be subsequently. I think it certainly is a step in surgery that seems to me a little new, and it is worthy of our deepest consideration. Just how far that operation will be practicable, or how much it will be used, I can hardly say; but there are times and conditions under which I think it will be very advisable to use it, especially in the light of the result he has obtained. I doubt if I could produce, without several trials, as good result as he has had there, but his long connection with pyorrhea alveolaris seems to have led him up to this to such a degree that he was almost ready to perform this or anything else.

Dr. D. W. Barker. I would like to ask Dr. Rhein if any microscopical tests have been made to prove whether there is any pus in those places, or not, and if so, what was the result?

Dr. H. C. Ferris. I would like to ask Dr. Rhein if there has been any painful result shortly after the placing of the root in the socket and the patient commenced to masticate upon that tooth. Also another question that seems in order—how long such a tooth would last? As I understand it, the root is simply biscuitted. There is no gloss brought over the root. It is left with a slightly roughened surface, so the gum tissue will adhere to it more completely. How long will it be before that root will absorb secretions from the gum tissue that are of an organic nature?

The President. We would be pleased to hear from Dr. Reitz.

Dr. R. Reitz, New York. I did not suppose I would be called upon to say anything on this subject, neither do I feel competent to discuss the paper. My office being located in Dr. Rhein's house, he has been kind enough to call me into his office from time to time, and I have seen something of these operations; I must say that I feel he has very good grounds for his enthusiasm in regard to the operation he has described this evening.

Dr. W. Jarvie. I think it is very good of Dr. Rhein to come to Brooklyn and give us the result of his experiments and his work here tonight, and it is particularly interesting to those who saw this case in April in New York. As he has said, it is no new thing to amputate such roots as he has described, but I think the replacing of amputated roots by porcelain substitutes is

entirely new, and Dr. Rhein deserves any credit that may be due as the originator of this idea. The molar on the right side that you saw this evening, with the substituted porcelain root, I remember very well last April. At that time, there was quite a discharge of pus; at the time I saw it, the lady had allowed dentists to see it for perhaps a couple of hours, and still at every pressure of the finger or a large burnisher, there seemed to be a supply ready to come out. How much there was in reserve, I do not know; but there was a large reservoir somewhere. I was particularly interested to see the condition of the gums around that root tonight, and I pressed upon the gum quite firmly, but I could not get the least show of pus or any discharge whatsoever, proving quite conclusively, without the use of a microscope that there was no pus present—at least none that was in evidence. I think the result is very remarkable, and that Dr. Rhein ought to feel quite proud and happy at achieving such a success. With Dr. Tracy, I do not think this is quite as easy as Dr. Rhein says it is. It requires the nicest manipulative skill to do what you have seen this evening. Dr. Rhein says I am mistaken, but I do not know that I am, because it is so beautifully adapted to the tooth, and it is an intricate operation, and as Dr. Tracy has said, unless it is done as beautifully as this operation tonight, it is perhaps just as well not to do it at all. I have amputated quite a number of roots, but have never attempted to restore the roots. Some of them, with the loss of one root, have remained fairly firm in position for some years. I saw one a short time ago, an upper molar, from which I amputated the posterior buccal root some ten years ago, and the tooth is about as firm now as it was then; but it is not in that sanitary condition in which you saw the tooth tonight. The porcelain root acts as the third leg of a tripod would, and the tooth is as much firmer in position as the one leg would add to the firmness of the two legs of the tripod. It is a very interesting piece of work, and has attained the object sought. I think we ought to feel a debt of gratitude to Dr. Rhein for doing this piece of work, and for letting us see it.

Dr. R. C. Brewster. I would like to ask Dr. Rhein if he makes any especial point in selecting the instrument that is to amputate this root—whether it be extremely fine or of a moderate size; and, secondly, whether he allows for the space or the quantity of tissue that is destroyed in that operation of cutting in the making of the new porcelain root. In the cutting off of that, there is ground to powder some portion of that root. If it is a large fissure drill, it would be about one-sixteenth of an inch; if a smaller one, one-thirty-second of an inch, and if that is not allowed for, there would be some difference in the length of the root, and as to the impingement of the socket from which the original root was taken.

Dr. M. L. Rhein. I am very glad to have these questions asked, because the difficult thing for me to know is what parts of the technique I have not made plain. These porcelain roots are baked in my office by a young female assistant, who has only been studying dentistry a couple of years, and we pay no attention to it at all. We simply give her the extracted root, and she brings us the porcelain duplicate. You cannot imagine anything simpler or easier than that, as far as technique is concerned.

I cannot emphasize too strongly the simplicity of the matter. I will admit that the first time I placed the root in position it made me rather nervous, and it rather excited the office assistants a little, but it is like any other new operation. We may say the same thing of the first gold contour filling we put in when we entered into practice.

In answer to one of the questions Dr. Ferris put, I must say that he did not thoroughly comprehend the paper if he thought those roots are merely biscuitted porcelain. They are thoroughly fused high-fusing porcelain roots. I do not expect to get any attachment of the gum to the porcelain, but I feel we will get a closer adaptation of the gum if we do not have a glossy, slippery surface. Therefore, as a last procedure, we put a fresh film of body over the surface of the root, and turn off the heat just prior to the glazing. It has been perfectly baked, and we use every precaution to bake it solidly. My instructions have been that the baking of the porcelain should be done in distinctive layers, so there should be no possibility of the absorption of fluids such as we have found in the low grade inlays, especially the glass inlays that were in vogue some years back. I want to disabuse Dr. Ferris's mind of that idea.

In regard to pain after the operation, I can only say that out of a number of cases I only know of one in which the patient complained of pain, and that was my fault. Any such operation as this entails more or less experimentation, and we learn the results in that way. I have not stopped in my paper to tell you of the various things I learned not to do. I simply told you what I learned by experience to be the best course. In one case, that of a lower molar, I conceived the idea that by the afternoon I would lose too much of the space, and I put a gauze dressing in that socket before dismissing the patient. I found I made a mistake in that, because I set up a slight inflammation which we always get, and which we seek in general surgery when we pack with gauze. As a result of that, the patient suffered considerable annoyance—I cannot describe it as pain—but it was the only unpleasant symptom that I have noticed in any instance.

The question of Dr. Barker, if I understood him correctly, was an-

swered by Dr. Jarvie. Dr. Barker asked if I made any microscopical examination since the introduction of the roots.

Dr. D. W. Barker. It seems to be gratuitously assumed that there is no pus there, because it is not visible to the naked eye; but until the microscope says there is none, we have no right to assume that there is none.

Dr. M. L. Rhein. We assume that it is daylight when the sun appears. The gum contracts tightly against that root, as you have seen it tonight, and it is impossible for any exudation to appear. It is impossible for us to examine anything microscopically that we cannot take hold of. If we can get no exudation there is nothing to examine.

I would say that this particular patient's mouth was in a deplorable condition, as far as pyorrhea was concerned, when it was seen in April last. Pus could be squeezed from any of the teeth at that time, and she left so soon after the other tooth was placed in position, that it was impossible for her to give us the time to treat those gums, and they were not treated. She went abroad, and while she passed through London with the family she was traveling with, she was taken by my brother, who is practicing in London, to Dr. J. Leon Williams. The expression from Dr. Williams was that he was simply astounded at the beautiful condition of health around the porcelain roots, as contrasted with the unhealthy condition of the rest of the mouth. I am pleased that she saw so representative a man as Dr. Williams when she had passed out of my hands, and a sufficient interval had elapsed, because it gives me the best corroborative evidence of the actual condition of those roots, as compared with the rest of the mouth. I had promised the young woman as soon as she came back to treat the rest of her mouth, and her mouth has been treated by my assistant who attends to that part of the work. A week from last Sunday was the last treatment those gums received. I do not refer now to the gum around the porcelain root; nothing has been done there from the time it was inserted; I refer to the rest of the mouth. As far as the pus that exuded from the rest of the mouth is concerned, I have seen such a remark as this in print: "Was this pus examined?" I saw that in regard to something that I stated about an operation that was performed on a patient, where the antrum was entered through the nose, and depleted of about a small teacupful of pus. The operation was done by one of the most celebrated laryngologists in the world. That gentleman in discussing the question whether this report was true, asked "How do you know this was pus? Was a microscopical examination made?" I do not like to say anything harsh in condemnation of the question Dr. Barker put, but that is almost an absurd question

to put to anybody who has paid much attention to pathological work, because pus is an evident product, and having once smelled of it and felt of it, it is impossible to mistake it for anything else. I defy anyone to produce anything that will imitate what we know as true pus. There is no such thing. The only thing that might possibly simulate it, are the primary new granulations of fresh tissue, and they are as far from it, in the clinical aspect, as the moon is from the sun.

The only question that remains is the one by Dr. Brewster in regard to the size of the drill. To my mind, the diameter of the drill is of very little importance, and that will be apparent to you when you have noticed in the patient's mouth that you have to make a joint. That joint should be hermetically sealed, and the only material that I know of that I thought would do for that, is the best amalgam at our demand. I have after using a new aseptic fissure drill, made the joint so close and so tight that it was necessary for me afterwards to remove a little of the natural root, or what was left of it, to get sufficient space to put my amalgam joint in such a condition that I knew it would make a secure joint. It is more advisable that that space between the root and the crown should be large than otherwise, or you will not be able to get sufficient amalgam in to get a good joint.

Central Dental Association of Northern New Jersey.

Discussion of Dr. Irwin's Paper.

Dr. C. S. Stockton. I only wish to say just one word, and that is, that the Doctor's address reminds me somewhat of remarks of gentlemen who make after-dinner speeches —they are not supposed to refer very much to the subject announced. The Doctor's paper tonight certainly did not refer very much to "Paris gems," except in perhaps this way: I suppose that all dentists in the lower part of the state are Quakers, and therefore the speaker turned over to Dr. Meeker the gem from Paris, whose picture is on our menu. Perhaps he is tired of her and turned her over to Dr. Meeker, who has turned her over to us. That at least is one Paris gem which we have. (Laughter.)

A good many years ago, in the city of Philadelphia, when Jones & White were the great caterers to dentists, there appeared in their store a gentleman by the name of Duverje, who visited this country from Paris;

he desired a gentleman whom he could take over with him; he saw there some work by Dr. Evans, of Lancaster, Pa., and he said, "I would like to be put in communication with this gentleman." It was done, and growing out of that introduction, Dr. Evans went to Paris. Dr. Evans, by his skill, tact and talent became known the world over; he became the dentist of the royal families of Europe; when their teeth needed attention Dr. Evans was the man sent for. He was so skilful, he was so well liked that he left not only hundreds, but thousands of gifts presented to him by the royal families of Europe. More than that, and the point I wish to make is that, by his skill and industry he accumulated a great fortune; he accumulated gems in Paris—numerous gems in Paris—that have come back to this country, and over $3,000,000 are to go to Philadelphia, where forever they will shine and glitter in the minds and hearts of young men who are to be educated in that magnificent institution which those three millions of gems will build and endow and which will go on forever. That is a Paris gem which will glitter in the crown of America, in that she had a man who could go to Paris, who could make a fortune and give it to the world to educate and make better the world because of his having lived in it. (Loud applause.)

Dr. Chas. A. Meeker. I do not think I ought to let this paper pass without comment. Dr. Irwin was my *confrere* in Paris. I think Dr. Stockton is a little wrong; it may be that Dr. Irwin turned over the young lady to me, but Dr. Stockton must remember that Dr. Irwin stayed there after I came home! (Laughter.) However, I fortunately had a photograph of her, and you gentlemen see it on the menu tonight. I tried to be impartial in picking out the lady; I have twelve of them, so that I can give you one each month at our meetings. (Laughter and applause.)

Dr. Irwin remained in Paris some twelve days, I think, after I left him, and his paper tonight shows the careful study he made of what he saw both there and in England, and I feel that his paper is a credit to our Society, and will add honor to it when it comes to be printed in the pages of ITEMS OF INTEREST.

Dr. B. F. Luckey. I have enjoyed the paper immensely tonight, and I am very glad indeed that Dr. Irwin went to Paris. I think it would be well for us if some of our members would strike out of the usual routine of office life, get out of the ruts of their daily life and see what is to be seen and known, not only in foreign lands, but in the by-ways of our own country.

What he has brought to us tonight has the imprint of personal inspection and personal contact; we accept it from him as the truth, as a matter of personal experience. It has a value attached to it that a theoretical essay

can never have, and it has impressed me with one strong idea which is that if there is any place under the broad horizon of heaven where it is well to hold the convention meeting it is within the borders of these great United States. There have been many meetings here, and it has never yet been shown that the Latin race is the dominant race; it has never been said that the Saxon or the Anglo-Saxon race take a back seat; it has never been said they have a forward seat. It is here that every man has a fair and equal chance; it is here that the Saxon, the Latin and all the races can stand upon an equal plane and every man has a fair chance with his fellow compeer to produce that which his brain or observation might bring to him and give him whatever fame his work might accomplish.

It may seem a little strong just now, after the late contest when Americanism seemed to come out so well, but I believe that this is the country and the place where every man has an equal chance, regardless of birth, with every other man that God Almighty has made. I believe that dentistry has attained and assumed the position in the world which it now holds entirely because of the freedom, the fellowship and the help that comes to every man who exhibits the qualities of perseverance and self-help that are so prominent in our American life today.

The fact that we have not advanced in the matter of public dental service as far perhaps as Europe, is probably due to the fact that we are very much younger; it is due, perhaps, to the fact that we have not arrived at a point where our population is congested as it is in the European centers; that here dentistry is new; newer than it is over there, although much more advanced. But it is not a fact, as Dr. Irwin has stated, that it has not been recognized here. It is true that we have no dentist appointed for the army and navy, and practically that we have no public dentists connected with our public institutions, such as hospitals, public schools, etc., in America; but it is also a fact, which may be new to Dr. Irwin, that there is a dental surgeon connected with St. Mary's Hospital in Passaic, a member of the staff on an equal standing with the medical members, and has been for a long time. There may be others; I do not know of others, but still I have not been pursuing that line of investigation, and there probably are others.

It is also true, as he has stated, that it is wrong on the part of our government to expect men to perform the duties of soldiers or sailors without proper dental service. The applicant for enlistment in either arm of the service is specifically examined regarding his teeth; if they are defective or bad he is rejected. Yet our government will accept a man whose dental powers are good, will place him in service and entirely neglect him in that regard. The matter has been brought to the attention of Congress again and again, and I am perfectly confident the day is not far off when Con-

gress will enact laws which will place the dentist upon a plane such as he has been seeking. As I have observed the subject, the principal opposition comes from the medical surgeon; the question of rank is the great stumbling block. The physicians and surgeons say "We cannot accept a dentist as our equal; he cannot pose in our army at the same rank as ourselves," and I believe the solution of this question will come, before many years, in the education of the dentist along medical lines, and I believe that when the dentist first obtains the degree of M. D. and then takes his dental degree of D. D. S., he will stand upon the same plane before the world as his medical brother, and his medical brother will not have that same question to raise when the dentist is proposed for membership in the ranks of the army and navy. It is an old, old question; it has been fought over and over, and will be fought over and over until the day comes when all our members, or the majority of our members see the fatuity of trying to force a man with a partial education up to the plane of a man with a complete education. There is no reason, gentlemen, that I can see why there should not be—and there is every reason why there should be—a complete education for every dentist. The dental curriculum has been raised before the day and from the day when I went to college—raised and raised and raised; it is going along the broad lines of a complete and generous education and the numbers of recruits to the advocates of medical education are increasing year after year, and I believe the day will soon come when every dental graduate throughout our land will first, under the law, be compelled to know the human body from end to end; to know the treatment of various diseases, to know what is right and what is wrong, and then, if he perchance may want to take a special degree, he may practice the profession of his choice.

I believe that Dr. Irwin in his peregrinations through Paris has seen much and enjoyed much that it would be a pleasure for us to know, and I am glad that he escaped the clutches of the fair beauties, a few of whose pictures we have seen, and to arrive home on our American shores to tell us all about them. (Laughter and applause.)

Dr. W. P. Richards. I have enjoyed listening to the reading of this paper very much indeed; a very thoughtful and able paper has been given us this evening. But I fear the essayist has been misinformed concerning the appointment of dentists to institutions in this country, for right here in the State of New Jersey a number of our members and members of the New Jersey State Dental Society have been appointed to institutions in this state. Our late friend, Dr. Levy, was dentist to the Orange Memorial Hospital, and at his death Dr. Crater was appointed in his place, and I am now co-operating in the work

at the Orange Memorial Hospital and at the Orange Dispensary, while Dr. Holbrook, as I understand it, is dentist for the City Hospital in Newark.

I merely mention this to show that there are dentists connected with institutions in this state, and I desire to say personally, without any egotism, that I have been connected with the Orange Memorial Hospital ever since it has been erected, and am today, and I believe that other states are following in the same course.

(On motion of Dr. Stockton a vote of thanks was given the essayist of the evening and the paper declared passed.)

Dr. Chas. A. Meeker. It is not often that I care to speak of preparations, but a very interesting experience was brought to my notice on Saturday which goes to show the anesthetic effect of one of the preparations made by the house of McKesson & Robbins, called "Vapocaine." None of us know how far the penetrating power of vapocaine extends on living or dead pulps. Mr. Evans, who made the experiment, had only pulpless teeth to experiment on, but he has made some on small cavities in a tooth without cutting out the cavities at all, placing therein the vapocaine mixed with a little aniline color. He brought them out to me, and I have ground them down, and will pass them around. You will see how the color known as methylyne blue is carried down by the vapocaine to the very apex of the root. I will pass these specimens around, and you will see the wonderful penetrative power of the preparation, and perhaps Dr. Evans will say a few words upon some further experiments which I believe he has made.

Dr. Evans. I am not quite certain that this experiment will prove of any great value as it appears before you, for it is only in a very crude form, but the idea occurred to me that by placing some methylyne blue or methylyne purple in the solution, the penetrative power of the solution could be shown.

I showed it today to Dr. Perry, and he said a good deal might be done in experiments tending to show the penetration of dentine by utilizing aniline in that way, and he did not know of any solution which had been so tested.

Independent Dental Journalism.

In the Editor's Corner will be found an announcement of the suspension of the *British Dental Journal,* and of the *Indiana Dental Journal.* Both of these occurrences must be of considerable interest to those members of the dental profession who are constantly preaching that we should have independent dental journals, by which is meant, journals which are not owned and published by dealers in dental supplies.

This subject was discussed something over a year ago before a dental society in New York. All of the essayists had prepared papers advocating that the dental world should transfer their allegiance from what they called "trade journals," to one (at least) devoted exclusively to the interests of dentists, published by dentists and for dentists. The editor of this magazine had been invited to take part in the discussion, but he found himself almost the sole exponent of the idea that independent dental journalism is an *ignis fatuus,* which, however, dentists have been blindly hurrying after for years. He pointed out from practical experience, the futility of such an effort, and his remarks were received in respectful silence.

The conduct of a dental journal, from a practical standpoint, involves, primarily, money with which to pay the printer; money with which to

pay the engraver, and money with which to buy the paper. Curiously enough, the purveyors of these necessities are men who have little sympathy with professional effort, but are so inbued with the commercial spirit that they like to have their bills paid each month before work is begun on a new number.

In order to meet these requirements, there should be a generous subscription list, and it is an undoubted fact that only about fifty per cent of the dentists in this country read dental journals at all. It is estimated that about thirty thousand dentists are legal practitioners in the United States, so that the projectors of an independent journal may have a vision of fifteen thousand subscribers in this country if they get them all.

To do this, it would be necessary to give a magazine of about the size and quality of ITEMS OF INTEREST, and at the price of one dollar per year.

Let us suppose, then, that the dental journal published by dentists, and for dentists in dental practice, should obtain fifteen thousand subscribers. At the end of a year, the experimenters in dental journalism will find that they will have expended between fifteen and twenty thousand dollars in the venture. With a smaller subscription list, these profits (?) would be greater, for the reason that large editions are proportionately more costly than small ones, the cost of the engraved blocks and of the editorial staff being fixed sums which, consequently, do not vary whether the edition be one hundred or one hundred thousand.

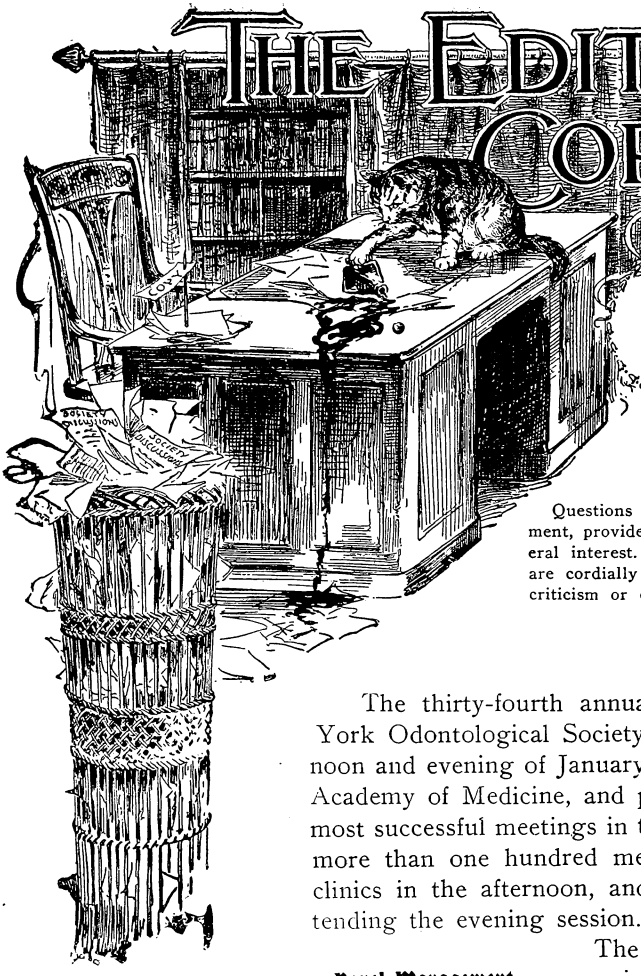
There are very few practical men, whether they be dentists or not, who would undertake the publication of an independent dental journal from purely philanthropic motives, and a practical outlook, such as here outlined, is likely to deter the sale of stock in any company formed for this purpose. If independent dental journalism is such an expensive luxury, it may be asked why it is that trade houses have established and continued to publish periodicals devoted to dental literature.

The answer is very simple, for they are thus supplied with a means of reaching their market through the advertising pages. This is a frank statement, but there is no reason why an honest fact should not be openly admitted. The other trade houses (modesty makes the word "others" necessary) have almost universally given over the scientific pages of their

magazines into the hands of editors who are men of national reputation, and men who enjoy the respect of their confreres throughout the country. Many of them are professors in our most prominent dental schools. The dental profession at large have recognized and appreciated this fact, and have given their allegiance and their support to these so-called trade journals, recognizing that no trade feature enters into the scientific pages of the magazines. Moreover, the progressive dentist finds the advertisements in his magazine to be interesting features, recording as they do, the latest improvements in dental appliances, tools and implements, which will aid him in his work. From all of which it would seem that the present arrangement is entirely satisfactory. It is satisfactory to the dentists because they get high class periodicals at very little cost. It is satisfactory to the publishers because, in spite of the loss, or at least lack of profit, in their publications *per se*, they are enabled to quickly place before the dental profession the advertisements of their wares. So long as these conditions maintain, the small minority who are crying for independent dental journals, will cry in vain. The suspension of the *Indiana Dental Journal* marks, for the present, the death of another independent venture, and with the editor, Dr. Hunt, we say "Rest in Peace."

An Impressive Incident.

In times of trial, sympathy makes all English-speaking races one people. Whilst all the world was in suspense as to the fate of Victoria, the good Queen, good mother and good woman, a most impressive incident occurred at the monthly meeting of the Central Dental Association. About a hundred men, including guests from neighboring States, were dining together, when, suddenly and spontaneously, all arose, and with much feeling sang, "God Save the Queen."



THE EDITOR'S CORNER

With malice toward none, with charity for all.

Questions will be answered in this department, provided the answers would be of general interest. After publication our readers are cordially invited to make further reply, criticism or comment.

The thirty-fourth annual meeting of the New York Odontological Society was held on the afternoon and evening of January 15th, at the New York Academy of Medicine, and proved to be one of the most successful meetings in the annals of the society, more than one hundred men being present at the clinics in the afternoon, and over two hundred attending the evening session.

Novel Management of Clinics.

The clinics in the afternoon were given by Dr. Joseph Head, of Philadelphia; Dr. A. W. Harlan, of Chicago; Dr. W. E. Griswold, of Denver, and Dr. Hinkins, of Chicago. A new method of managing these clinics was inaugurated, and proved to be a tremendous success, the announcement attracting many more than the usual number, while the demonstrations were made doubly satisfactory.

The clinicians operated in the regular meeting room of the society, giving their practical demonstrations in the usual manner, after which those in attendance were invited to take seats while the clinicians, one at a time, orally explained the features and details of their operations.

This not only made everything much more intelligible to the members and guests, but afforded opportunity for questions and discussions, so that instead of the ordinary clinic, at which only the lucky few near the chairs obtained any real information, the whole affair resolved itself into a most practical dental meeting. Too much credit cannot be given to the Executive Committee for this new feature, which, undoubtedly, will do much to renew the old-time interest in clinics in this city.

The evening session was held in the large assembly room, which was comfortably filled with the large audience present, many visitors from Boston, Washington, Philadelphia and New Jersey attending. Dr. Brophy gave the best demonstration of his operation on cleft palate which has been heard in the East, this lecturer being received with great enthusiasm and high commendation for the work which he is doing for sufferers of this dreadful deformity.

Dental Journals Suspended.

We have to announce that the *British Dental Journal*, at first known as *The Dentist*, of which Dr. J. Leon Williams was for some time the editor, has suspended publication principally for lack of support. We have, also just received the following circular letter, which announces the suspension of the *Indiana Dental Journal:*

"We announce the suspension of the publication of the *Indiana Dental Journal* with the close of Volume III. We do not announce it with great regret, for if regret had been poignant, suspension of publication would not have occurred. Nor do we make it known with unmixed joy, for a measure of regret tinctures the announcement.

"Further publication is suspended because the editor is tired. For the past twelve months he has been publisher as well as all kinds of editor, and this, added to numerous other duties, made the situation no joke. The *Indiana Dental Journal* was first issued in January, 1898. It was conceived, started, paid for, conducted and edited by two dentists for the first two years. No other persons, no firm, corporation, association, municipality, or government ever had any interest, real or otherwise, in its publication. It was designed to foster the best interests of the profession in Indiana, and to incidentally adjust any loose joints in the dental mechanism of the whole country. The first object was attained, to a degree, the second only partially achieved. There are still a few questions left unsettled, and still a few editors with whom we have not exchanged editorial amenities. But you cannot have everything in this world.

"Our editorial experience of the past three years has been, in many ways, a pleasant one; in every way an interesting one. We have nothing to 'take back,' nor, on the whole, do we see many neglected opportunities

in the past thirty-six months. In fact, we are quite well satisfied with the record. Starting with absolutely no blare of trumpets, and without a subscriber, we put out a journal that gradually extended its sphere of influence until it was being read in forty-four States—from Maine to Washington and from Minnesota to Florida, and in Manila, England, Canada and Cuba, by bona fide subscribers. That was worth the doing, was it not?

"But the grind of it. Some of those thirty-six numbers were put together on the train, editorials were written in various hotels at numerous places. Sundays, that should have been devoted to pious meditation, were sacrificed to editorial work, and evenings that might have been profitably used for sandpapering the intellect were immolated on the altar of original contributions. These are the things that we do not regret.

"To all those who advertised with us and thus contributed to making the *Journal* a possibility, we extend our thanks. To those who so loyally stood by us and sent in their $1.00 per annum, we grovel. The numerous kindly letters of these latter were the chief solace of our editorial life. To part with you is our regret.

The Indiana Dental Journal,
Born January, 1898,
Died December, 1900.
No Complaint, Everybody Satisfied.
Cause of Death, the Editor Was Tired."

This was a magazine which promised very well. The editor, Dr. Hunt, proved himself to be exceedingly capable, and a man possessed of individuality, which gave to his magazine a unique place of its own in dental literature. He also was fearless in attacking what seemed to be wrong, and what seemed to him to be wrong usually needed righting. It is, therefore, with regret that we announce that Dr. Hunt has given up his editorial chair. Should he, at any time, however, have a serious attack of *cacoethes scribendi*, we recommend the pages of ITEMS OF INTEREST as the best outlet for the excretions of the disease.

Pressure Anesthesia.

There has been considerable in the magazines of late about pressure anesthesia. In a discussion of the subject, Dr. M. I. Schamberg, of Philadelphia, is reported to have said:

"Is the anesthesia due to cocaine or pressure? At first the application of cocaine may allow a certain amount of pressure, but if you press upon a vascular part, enclosed in a bony cavity, you will impede the circulation, and I doubt if any cocaine is absorbed after pressure has once been applied. After that the anesthesia is due to temporary paralysis

of the nerves, which permits extraction of pulp. Sufficient cocaine cannot be taken up by the pulp to thoroughly anesthetize it by simple contact. Pressure anesthesia is better than injection of cocaine or application of arsenic, because there is little danger of anything being forced beyond the apex."

In another discussion, Dr. B. H. Lee, of Chicago, makes the following comment on the name pressure anesthesia:

"The name 'Pressure Anesthesia' will bear criticism, as it is not the pressure which causes anesthesia, but the infiltration of cocaine into the tissues. I have tried pressure alone on several exposed pulps, but it always failed to anesthetize. Dr. Schleich combines pressure with the solution which is injected into the tissue. He marks out the area to be operated upon, and inserts the needle, filling the tissue with liquid. This seems to be the same idea upon which our practice is based, and we should therefore likewise call ours infiltration."

In reply, Dr. W. J. Morton, who originated the treatment and the name, comments as follows:

"Dr. Schamberg asks the question: 'Is the anesthesia due to cocaine or pressure?' He partly answers the inquiry when later on he says: 'Sufficient cocaine cannot be taken up by the pulp to thoroughly anesthetize it by simple contact.' At this point the element of pressure, however exercised, comes into play, and thus the cocaine is actually brought into contact with the tissue desired to be anesthetized—hence, we obtain an anesthesia, in which both pressure and cocaine (or any other suitable drug) play a mutual part. Neither by itself would have produced anesthesia. Pressure alone or cocaine alone would not have done so. The term 'pressure anesthesia,' at the time I proposed the name and the plan, seemed to me to very fairly express the facts, unless by chance we wish to specify each medicament employed and say 'pressure cocaine anesthesia or pressure eucaine anesthesia,' etc., etc. I hardly see how, as Dr. Lee suggests, we could term the process infiltration anesthesia since we may have that in any tissue without exercising mechanical pressure, whereas in dentine, mechanical pressure seems to be an essential precedent and accompaniment of the infiltration. Perhaps it would be clearer then to say 'pressure cocaine anesthesia.' To use the word infiltration would muddle the thing with Schleich, with whose process it has no special relation."

Dinner to New Jersey State Society Officers.

It is the custom in the State of New Jersey for the officers and members of the Executive Committee to meet and perfect arrangements for their annual convention, on which occasion the president usually tenders a complimentary dinner. This year the ban-

quet was given by Dr. F. Edsall Riley, the present incumbent, and was in every way a great success. Covers were laid for twenty-five in the private dining room of the Continental Hotel, and as will be seen by the menu which is appended, a sumptuous repast was set before the guests with sufficient liquid refreshment to make all merry.

Dr. C. S. Stockton responded to the first toast, "Our Dean." Dr. Stockton is the oldest living member of the State Society, is still virile in physique, and speaks with his accustomed vigor of oratory and language. This was no exception to the rule, the Doctor making one of the best speeches of his life.

Dr. W. W. Walker responded to the toast, "Our Honorary Members," and regaled his auditors with many pleasant reminiscences from Paris and a few witticisms gathered in London.

The next toast, "Our Ladies," was ably treated by Dr. W. E. Truex, who evidently spoke from long and pleasant experiences of the fair sex, to whom he offered many courteous compliments and valued praises. In the end he asked all to rise, and drink to her that each one loves best.

Dr. H. S. Sutphen did full justice to the toast, "Our C. D. A." He recounted the many achievements of its members, and premised that in the future, as in the past, the society would ever be found in the foremost ranks battling for dental progress.

Dr. C. A. Meeker answered to the toast, "Our New Century." He touched upon the educational problems, so much discussed during the last five years, and commented upon the animadversions against boards of dental examiners, which, he claimed are, nevertheless, the bulwarks of our profession, and are gradually raising the curriculum of the schools.

Mr. Halsey M. Barrett, who has helped the Jerseymen out of many legal scrapes, was a special guest of the evening, and to him was given the subject, "Our Law." It was evident that the topic had been assigned with the idea that the legal gentleman would express an opinion upon the present entangled condition of the New Jersey dental law, and, perhaps, offer some advice for the future. But Mr. Barrett very cleverly evaded "advice without fee," and far from speaking of the dental law, he praised the general statutes of New Jersey, which, he declared, are much esteemed throughout the country. On dental law he was particularly silent, though unquestionably he would be able to give much valued co-operation to the committee which may draft an amendment.

"Our New Auxiliary" was treated by Dr. J. E. Duffield, who spoke for the Southern Dental Society of New Jersey, a new society with a most promising future.

The last toast of the evening, "Ours," was given to Dr. R. M. Sanger, who claimed about everything in sight for New Jersey, and regaled the

guests with several excellent stories which he had evidently reserved for this special occasion.

The following was intended to serve as a menu. The gentlemen present all being thoroughly grounded in a knowledge of chemistry, readily comprehended the various formulæ. The busy dentist, however, might find some recreation, after a hard day's work, in attempting a translation, and we believe that Dr. Riley has promised to divide the remains of the feast between the first twenty who send him correct solutions. We will drop a hint to the effect that the numbers on the side which follow the letters S. G. indicate the specific gravity of the things drinkable. All who are familiar with the favorite tipples of New Jersey should readily find the names which were on the bottles.

FORMULA.

$C_{72}\ H_{112}\ N_{18}\ S\ O_{22}$

$C\ H_3\ S_2\ O_2\ I$

.99432 S. G.

$C\ S_2\ H_4\ 3\ H_2\ O + H_2\ O$

.97806 S. G.

$Ca\ S_2\ Fe\ H_2\ 6\ H_2\ O + H_2\ O$

$C_{77}\ H_{14}\ N\ O_{12}\ Na\ Cl$ .98290 S. G.

$C_9\ H_{21}\ N_5\ O_3 + H_2\ O$

$C_{11}\ H\ N\ O$ à la Paris

TABACCHO

$C_7\ H_{14}\ N_{21}\ O_{12}\ Na\ Cl_2$

$C_{11}\ N\ H\ O$ a la Julienne

.98529 S. G.

Lycopersicum esculentum

$C_{12}\ H_{22}\ O_{11} + H_2\ O$ 32 °F

$C_{12}\ H_{20}\ O_{11} + H_2\ O$

$C_{12}\ H_{22}\ O_{11}\ N_7\ Na\ Cl + H_2\ O$

$C_4\ H_6\ O_2$

$C_3\ H_6\ O_3 + C_{12}\ H_{20}\ O_{11} + H_2\ O$

$Ca\ S_2\ Fe\ 6\ H_2\ O\ Na\ Cl_2\ H_2 + O$

$C_{17}\ H_{26}\ O_{15}$

NICOTIANA TOBACUM

Principles and Practice of Filling Teeth.

By C. N. JOHNSON, M.A., L.D.S., D.D.S., Professor of Operative Dentistry in the Chicago College of Dental Surgery. With Illustrations.

Philadelphia: S. S. White Dental Manufacturing Company; London: Claudius Ash & Sons (Limited). 1900.

The chief impression made after a careful perusal of this work is that there is more uniformity in dental practice than many are ready to admit. As the reader passes from chapter to chapter, he is compelled to acknowledge that the author is again and again recommending processes upon which he, himself, is constantly relying in his daily practice. So true is this, that the very few points of difference that might be found, are mainly in the line of individual preference rather than of principle, although there are one or two principles enunciated which have not yet been universally adopted.

On the whole, the work is to be very highly praised for its directness, for its capable descriptions of intricate processes, for its dogmatisms (dogma being the only true mode of teaching), and for its highly literary style. The author begins in an uncommon, but most commendable manner, his opening chapter declaring that the first duty of the dentist in taking a patient is to cleanse the teeth. He says: "No successful architect ever builds a house without first looking well to the foundation, and no surgeon of repute would proceed to operate upon a wound without at least making the surrounding parts as healthy as may be in advance."

Then follows a chapter discussing the subject of caries in which the latest and most probable theories are thoroughly explained. In the course of this chapter, there is recounted the history of a case, the patient being a girl of eight or nine years of age. At her first appearance, the

molars only were affected. The author says: "From this time forward, for the next six or seven years, the activity of the caries in that mouth was appalling. The teeth would decay on their journey through the gums, in eruption, recurrences of caries around fillings would take place with discouraging frequency, and new cavities would spring up, seemingly almost in a night. . . . . Gold was out of the question, and resort was accordingly had to amalgam, cements and gutta percha." The subsequent history was one of constant attendance on the part of the patient for the treatment of more and more new cavities. Finally, at the age of sixteen, a change seemed to take place in the conditions, and at the present time, the operator is gradually replacing the original fillings with permanent ones of gold.

This is a history which is, undoubtedly, familiar to most of us, but it is much more familiar to hear dentists declare that the teeth of children should be filled with the more temporary materials instead of gold. Whilst the practice followed in the case cited was the very best, and the results, the highest, such treatment is to be used only with extreme discrimination. Altogether too much temporizing with children's teeth is the prevalent practice of the day. Within the experience of the writer, there stands out prominently one case, which is the exact fac-simile of the above quotation from Dr. Johnson, the past and present conditions, the treatment and results being the same; nevertheless, the fact that this is the only case of the kind met with in an experience of twenty-five years, whilst hundreds of gold fillings have been placed in mouths of children between the ages of six and twelve with most satisfactory and permanent results, shows that temporary work of this character should be the exception rather than the rule. This statement should not be taken to mean that Dr. Johnson has advised the frequent use of gutta percha, etc., in children's permanent teeth, but is merely the record of a passing thought upon reading the history quoted.

The following paragraph quoted from the chapter dealing with the exclusion of moisture should be prominently in the minds of all practitioners when applying the rubber dam: "The fact that the ligature in any instance may give pain should influence the operator to dispense with it whenever possible, and in actual work in the mouth, this may be done to a very large degree. If the dam is of proper weight and skilfully adjusted, it is the exception rather than the rule for a ligature to be required."

On page 72 is illustrated a cuspid tooth showing a cavity on the labial surface extending under the gum margin. This figures an extreme case, in which the author recommends that the gum may be cut and the flaps turned back in order to apply the rubber dam. This operation

does not seem commendable for if it is absolutely impossible to force back the gum by other means, which should be extremely rare, it would seem preferable to fill that portion of the cavity which is out of sight, with amalgam, and at a subsequent sitting to finish the operation with gold rather than to wound the festoon of the gum by an incision, which invariably results in recession.

In the chapter dealing with the classification and preparation of cavities, the author follows Dr. Black's teaching in recommending the extension of approximal cavities (he calls them proximal, which seems a poor word), up to or beneath the gum margin, and in spite of the exceptions to the rules which he cites, it seems quite questionable whether he does not carry this dogma to an extreme. The subject is of too much importance to be discussed in the limited space of a review.

The author says very wisely: "It is sometimes well to keep fillings from view, if possible. Whenever it becomes necessary for a filling to show at all, it should be extended labially so as to show distinctly. The reason for this is where gold is placed between teeth in such a way that it is in the shade, the appearance a few feet distant from the patient is that of a black mass, seemingly decay, while if the filling is carried out sufficiently to allow the rays of light to reflect upon it, the bright, yellow tinge of gold is immediately perceptible."

On page 141, the author says: "Remove thoroughly all the calcified tissue in every instance where its removal will not result in exposure of the pulp. In those cases where it extends to the pulp, remove all that can safely be done short of actual exposure, and any large masses of decomposing tissue surrounding any portion of the pulp, remove even if it causes exposure." This is absolutely sound doctrine. He continues, however, as follows: "The pulp will be safer under a capping of foreign material than when subjected to the influence of this infected and poisonous mass." If this means that the author advocates the capping of an exposed pulp, in the light of the present knowledge of pulp canal treatment, the teaching is questionable, it being much preferable for the canals of the root to be occupied by an antiseptic root filling, than by a pulp which is almost certain to die.

Later in the work, there is a chapter devoted to the subject of pulp capping, in which the author declares in favor of attempting to save pulps which have been actually exposed, although he restricts the effort more especially to teeth of very young patients. In the course of the discussion, he tells us that many pulps have died under capping which, he says, has led men who were ordinarily careful and conservative, to advise that wherever a pulp is actually exposed, it should be destroyed. This, he says, must be considered extreme teaching in view of the well estab-

lished fact that pulps have lived to do good service for many years after being capped.

The writer believes that it has never been well established that pulps capped under these conditions have lived to do good service. It has never been explained by what means the odontoblastic layer of a pulp, which is that portion which must be wounded in an exposure, could by any physiological action repair itself. Practically all that is said here in favor of pulp capping is obsolete, or at least obsolescent.

On page 174, the author's declaration that the hand mallet is preferable to all others, is sound. His advice that it should be used by an assistant, rather than by the operator himself, is rather a matter of personal preference and experience. To one who is accustomed to mallet for himself, even though occasionally he is obliged to twist his spine into the shape of a figure eight, the advantages of an assistant are more than offset by the annoyance at the assistant's mistakes, or the double work of keeping one hemisphere of the brain on the filling, while the other is occupied with signalling to the assistant.

On page 182, there is some exceedingly sound teaching in relation to the protection of the peridental membrane while malleting, a subject, by the way, which has been very little treated in our literature.

In discussing the use of matrices, the author says "that gold can be firmly adapted to a surface like the matrix has been too often demonstrated to require further emphasis. It is surely as easy to adapt gold to a matrix as to the wall of a cavity," etc. This is the same error as was made by Prof. Black when testing amalgam fillings. Prof. Black's matrices were of steel, and he, on at least one occasion, declared that he had spent considerable money to have the inner surfaces of these matrices highly polished. The walls of a tooth are rough, and not polished, and it is this roughness, causing friction, which makes it possible to thoroughly pack gold in contact with tooth structure. It is very different when packing gold against a matrix. Indeed, it is not packed against the matrix, but rather alongside of it. Perfect fillings have been made with a matrix, just as they have been made without, by overbuilding and then polishing down to a solid surface of gold. Some years ago, a number of expert operators in New York undertook to fill gold into matrices of glass, the inner surfaces of which, of course, were smooth. By subsequent tests with the microscope, and with aniline dyes, it was shown that every operator had failed. Only one name needs to be mentioned—that of the revered Marshall Webb—to indicate that good men were unable to pack gold against smooth surfaces.

As was said at the outset, the work on the whole is an admirable addition to our literature, and the author may well feel proud of his

achievement. The publisher, too, is to be commended for the admirable style, both in regard to the letter press and illustrations, some half tones of the hands in the process of adapting rubber dam and clamps being especially unique.

R. O.

Dental Metallurgy; A Manual for the Use of Dental Students and Practitioners.

By CHARLES J. ESSIG, M.D., D.D.S., Professor of Mechanical Dentistry and Metallurgy, Dental Department, University of Pennsylvania. Fourth Edition, thoroughly revised by AUGUSTUS KOENIG, B.S., M.D., Demonstrator of Metallurgy, Dental Department University of Pennsylvania, and Assistant Demonstrator of Histology, Medical and Dental Departments, University of Pennsylvania. 12mo, 277 pages, with 43 engravings. LEA BROTHERS & Co., Philadelphia and New York. 1900.

The first work on this subject that can be truly said to have any scientific basis was the Chemistry and Metallurgy by Dr. Piggott, of Baltimore. This was written especially for the Baltimore Dental College in 1854. The metallurgical portion of it was very brief and gave an evidence of a want in this direction. Prof. Essig's work on Dental Metallurgy when it made its first appearance was at once recognized as filling a needed place in the dental curriculum. In view of the many advances made, not only in laboratory methods and devices, but also the recent additions to our knowledge of the metals themselves, the present edition is a very timely one. It undoubtedly contains in its simple and direct language the latest and most scientific data on this subject. Especial attention has been given to the subject of amalgam. Nowhere can be found a clearer exposition of the admirable work done by Prof. Black in this direction. We would emphasize especially the value to the teacher and student of the line of experiments for laboratory work. The author has had the assistance not only of Dr. A. Koenig, of the University of Pennsylvania, but also that of his father, George A. Koenig, Professor of Chemistry and Metallurgy in the Michigan College of Mines. The work is up to date and will rank as a standard text-book in dental colleges.

M. L. R.

The American Text Book of Prosthetic Dentistry.

In Contributions by Eminent Authorities. Edited by CHARLES J. ESSIG, M.D., D.D.S., Professor of Mechanical Dentistry and Metallurgy, Department of Dentistry, University of Pennsylvania, Philadelphia. Second Edition, Revised and Enlarged. In one octave volume, pp. 817, with 1089 engravings. LEA BROTHERS & Co., Philadelphia and New York. 1900.

The exhaustion of the first edition and the consequent necessity for the second edition of this work in so short a time is evidence of the fact that the book has really become what the publishers hoped it would be, the standard work on prosthetic dentistry in our educational institutions. It has done more than anything else to lift the old "mechanical dentistry" into the realm of dental prosthesis. For this alone, the profession is greatly indebted to the author. One of the unfortunate conditions in dentistry today is the lack of desire on the part of the majority of the better educated men to practice dental prosthesis. This state of affairs was more marked a few years ago that it is at the present day. There is very little doubt but that the scientific plane which the publication of the first edition of this work has given to mechanical dentistry, has had much to do with the amelioration of this unequal condition of affairs between operative and prosthetic dentistry.

No longer does the man who does most of his work at the laboratory bench need to feel that he occupies a position inferior to his colleague who spends his entire day at the chair inserting fillings. The programmes, discussions and clinics during the past few years have shown that the coming prosthetic dentist is bound to place himself upon an equal footing with his operative brother. The clean cut, incisive and systematic manner in which the author has placed this subject before the dental student has had no little influence in keeping within the domain of prosthetic work, the man especially gifted in this direction, but who in years gone by has so often felt it necessary to lay aside the work for which he has a special calling in order that he may rank himself an operative dentist.

In our original review of this work was given a very careful summary of the excellent manner in which Drs. Goddard, Burchard, Ottolengui, Molyneaux, Thompson and Tees united with Dr. Essig in making this the standard text-book on this subject. The present edition has been materially enlarged to include all recent advances. This has necessitated considerable more matter and a large increase in the number of illustrations which are so well executed as to have a strong bearing on the work

as a source of instruction to students. Great credit for a large part of these fine illustrations is due to the son of the editor, Dr. Norman S. Essig. The modesty of the junior Dr. Essig appears to have kept his name from the list of contributors to the first volume, and we learn for the first time that the very extensive chapter on "Vulcanized Rubber as a Base for Artificial Dentures" is his contribution. He has treated the subject in a simple, clear and systematic manner, and has just cause to congratulate himself upon his entrance into dental literature. Among the additions, one of the most important is the contribution to Chapter X. on "Recent Improvements for the Proper Articulation of Artificial Teeth" by Drs. A. De Witt Gritman and George B. Snow. Dr. Snow, of Buffalo, is quite well known in his connection with manufacturing appliances and as a professor in the Dental Department of the University of Buffalo, and Dr. Gritman is the new demonstrator-in-chief of prosthetic dentistry at the University of Pennsylvania. His articulator is the result of a further evolution of the work begun in this line by the late Dr. W. G. A. Bonwill and by Dr. W. E. Walker, of Mississippi.

The editor, in his preface, has paid a most deserving tribute to his appreciation of the great value infused into the book by the brilliant contributions from the pen of the late Dr. Henry H. Burchard. His untimely death has removed one of the brightest stars in the field of dental literature. It would be impossible for a work of this magnitude to be published without a certain percentage of errors both of commission and omission. The percentage of such, however, is very small. In our review of the first edition we dwelt at some length upon the great value of an index sufficiently conprehensive in size. It is with regret that we note that this has not been materially enlarged. Sufficient clerical work to make this index four times its present size would render it of great value to the student.

M. L. R.

Discovery of Anesthesia by Dr. Horace Wells.

Memorial Services at the Fiftieth Anniversary.

PATTERSON AND WHITE CO., Philadelphia, 1900. Price, $1.00.

This volume is a record of the proceedings of a meeting of dentists and of a banquet, at Philadelphia, December 11, 1894, to commemorate the fiftieth anniversary of the discovery of anesthesia by Dr. Horace Wells.

As an appendix, evidence has been added in support of Dr. Wells's claim to the discovery, taken from a work by Hon. Truman Smith, U. S. Senator from Connecticut, published in 1853, and again in 1858.

It forms a handsome volume of 124 pages, tastefully printed and tastefully bound. A mistake has been made in not placing the title on the back, where it may be seen when the volume is in place on the bookshelf. Nothwithstanding all that library science has provided in the way of time-saving devices for making books and their contents more accessible to readers, the title on the back has lost none of its old-time importance. A book without it still remains a time wasting and temper trying device. As the volumes stand in place the exposed titles form a catalogue, always at hand and quickly consulted; a standing invitation to inquire within.

It is to be regretted that the publication committee has not shown more care. In some portions the volume lacks editorial supervision. The report of the meeting impresses one that the stenographer's report was, without revision, placed in the printer's hands. The introductory is gracefully written; it is to be regretted that the same pen did not recast the incoherent sentences made to stand for Dr. Crawford's remarks. They may be a faithful record of what he said, for anyone occupying the position he did, in spite of ability and of careful preparation may, at times, lapse into awkward expressions; there is no excuse, however, for permitting them to form part of a volume like this, especially when their correction would have been a mere schoolboy task. There is no proper distinction made in the interest of the reader in passing from Dr. Crawford's remarks introducing the programme, to Mr. Fillebrown's address on "The History of Anesthesia." The interesting remarks of Dr. G. Q. Colton are accompanied by nothing to show where or when they were made. While trivial remarks of momentary interest are recorded, it is strange that those introducing the speakers should have been omitted. We find in the book no explanation of the long delay, nearly six years, in publishing these proceedings; this should have been given in the introduction. The report of the proceedings at the banquet is in marked contrast to that of the meeting. It is full, and forms a well connected story.

Dr. Fillebrown's address giving a history of anesthesia, forms an appropriate introduction to the commemorative exercises. Very briefly, and yet sufficiently full for the purpose, he traces the many previous attempts to produce insensibility to pain during surgical operations, none of which proved practical and safe. He refers to the well-known incident which first directed Dr. Wells's attention to nitrous oxide, and to the painless dental operation under its influence performed upon him the next day by Dr. Riggs, as marking the birth of a new and wonderful era in surgery, the realization of a long cherished dream. He refers also to the introduction of

other agents having like properties, and to the letter of Dr. Oliver Wendell Holmes to Dr. Morton suggesting anesthesia as an appropriate name for the physiological condition they are capable of producing. He refers, in conclusion, to the much to be regretted controversy arising from the rival claims of Drs. Morton and Jackson, and quotes as conclusive on this point portions of a letter written to Hon. Truman Smith by Dr. C. H. Haywood, who was house surgeon of the Massachusetts General Hospital at the time Dr. Morton there demonstrated the anesthetic properties of ether. The letter is dated from New York, January 14, 1853. Dr. Haywood was present at the first surgical operation performed while the patient was under the influence of ether, and his letter bears evidence that he had well considered the question at issue. Dr. Haywood suggests in this letter, that this, like almost all great discoveries, was the offspring of several brains, and was gradually brought forth. He credits Dr. Wells with discovering "that substances applied to the pulmonary surfaces by inhalation, produce a sudden and concentrated effect quite different from that of the same agent taken into the stomach." He regards this as the first important step in the story of anesthesia; and while giving due credit to those who followed, and who from this initial step with other agents and means made anesthesia indispensable to the surgeon, he concludes with the following sentence: "To the spirit of Dr. Horace Wells belongs the honor of having given to suffering humanity the greatest boon it ever received from science."

Prof. James E. Garretson follows with a very interesting address. He contrasts a hospital scene before the advent of anesthesia with one that may be witnessed today, and looking backward fixes the beginning, the initial step, the discovery of that which has wrought the change, to the suggestion of Dr. Horace Wells. He said, in substance, that Dr. Wells saw such an accident as many another had seen; he saw, however, more than others did; he saw in it anesthesia. He did not stop with the mere suggestion as others had done, he put it to the test. Regarding the controversy he asked the question, "Was anesthesia, as anesthesia, known to surgery before 1844 as it became known in that year and has since remained known? Not nitrous oxide, not ether, not chloroform, not rapid breathing, but anesthesia."

"Who was the man of that year? Horace Wells."

"This, it seems to me, settles the question."

His address will ever remain a pleasant recollection to those who heard it. He tersely and forcibly presented the reason why the discovery of that which we now know as anesthesia should be credited to Dr. Horace Wells.

The presence at the meeting of Dr. G. Q. Colton was specially interesting. It is much to be regretted that the pleasant remarks introducing him

have been omitted. In his remarks he relates the incident which occurred at one of his lectures that fifty years ago suggested to Dr. Wells the use of nitrous oxide, and gave a detailed account of the operation under its influence the following day. Unequivocally and with emphasis he gives to Dr. Wells, without reserve, full credit for suggesting and demonstrating the first practical method of producing insensibility to pain during surgical operations.

The addresses at the banquet are pleasant reading and well worth preserving in book form.

A commendable feature of all the remarks is the very slight reference made to the controversy which at one time waged so bitterly. While claiming for Horace Wells, that on the 11th of December, 1844, by submitting on his own suggestion to the extraction of a tooth under the influence of nitrous oxide gas, he discovered and made known that which we now know as anesthesia, full credit was given to those who later, with other agents, gave this discovery added importance.

The book has historic value, is well worth the price and worthy of a wide circulation. W. H. T.

Cornelius Searle Hurlburt, Sr.

Dr. Cornelius Searle Hurlburt, Sr., the veteran dentist of Springfield, Mass., died recently at his home. His death was caused by pneumonia, following a brief illness.

In the death of Dr. Hurlburt, the city loses one of its most respected citizens. His professional life of nearly half a century covers the development of the city and of his own profession with thoroughness.

Dr. Hurlburt, who has won more than a local reputation as a dentist, was born in West Springfield, March 18, 1832. He was educated in the schools of his native town. At the age of eighteen he began teaching, which he continued for two years. At twenty-one he began the study of dentistry under Dr. G. H. White. Three years later, after graduating, he bought the office of his preceptor and began the practice of his profession. He was for ten years a member of the board of visitors of his alma mater.

Thirty young dentists under Dr. Hurlburt's tutelage were trained for their profession, eight of whom have established offices in Springfield. Dr. Hurlburt has done much for the profession of dentistry, not only in his own locality, but throughout New England. He was at one time president of the Connecticut Valley Dental Society, and at the time of his death was a member of the Valley District and Massachusetts Dental Societies.

In politics Dr. Hurlburt was a sincere Republican. In 1867 and 1868 he was elected a member of the common council, and did the city signal service by his instrumentality in obtaining better sanitary conditions. He also served efficiently for nine successive years in the board of education.

His loss is sincerely mourned by the community.

Bernard Hess.

Bernard Hess, D.D.S., in his sixty-sixth year, died at his home in New York City on December 23, 1900, from heart failure.

Dr. Hess was born on April 7, 1834, in Bergen, near Frankfort-on-the-Main, Germany. Upon his arrival in this country at about 1855, he took up his residence at Cuthbert, Georgia, in which state he practiced as an itinerant dentist, traveling from plantation to plantation, remaining from three days to a week to complete such dental work as was requisite. At the outbreak of the Civil War, he joined the Fifth Georgia Volunteers of the Confederate Army as a private. He was subsequently promoted as chief buglar of General Bragg's brigade and saw service until the battle of Lookout Mountain, where he was captured and taken as a prisoner of war to Rock Island barracks, Illinois. He was there selected to act as one of the hospital stewards, and after an imprisonment of fourteen months was released, on taking the oath of allegiance. He thereupon came to the City of New York, entered the New York College of Dentistry, then recently established, and graduated March 7, 1873. He continued in the profession until September, 1895, when he retired from active practice.

In 1878, in recognition of previous services, he was elected honorary member and Master of the Free German University of Arts and Sciences at Frankfort-on-the-Main, Germany, and was awarded their diploma and medallion.

He had traveled extensively in both Europe and America.

He had for many years been a sufferer from organic troubles.

National Society Meetings.

National Dental Association, Milwaukee, Wis., August 6th.

National Association of Dental Examiners, Milwaukee, Wis., August.

National Association of Dental Faculties, Milwaukee, Wis., August 1st.

State Society Meetings.

Alabama Dental Association, Montgomery, May 8th, 9th, 10th.

California State Dental Association, Los Angeles, July 9th, 10th, 11th, 12th.

Connecticut State Dental Association, Hartford, May 21st, 22d.

Delaware State Dental Society, Wilmington, June 5th.

District of Columbia Dental Society, Washington, December.

Florida State Dental Society, Tampa, May 15th, 16th, 17th, 18th.

Illinois State Dental Society, Rockford, May 14th, 15th, 16th, 17th.

Iowa State Dental Society, Clear Lake, May 21st, 22d, 23d.

Maine Dental Society, Old Orchard Beach, July 16th, 17th, 18th.

Minnesota State Dental Association, Duluth, August.

Mississippi Dental Association, Yazoo City, June 11th, 12th, 13th.

Missouri State Dental Association, Sedalia, July 9th, 10th, 11th, 12th.

Nebraska State Dental Association, Omaha, May 21st, 22d, 23d, and 24th.

New Jersey State Dental Society, Asbury Park, July 17th, 18th, 19th.

New York State Dental Society, Albany, May 8th, 9th.

North Carolina State Dental Society, Morehead City, June 26th, 27th, 28th.

Ohio, Michigan, and Indiana State Dental Associations, Indianapolis, June 4th, 5th, 6th.

Ohio State Dental Society, Columbus, December 3d, 4th, 5th.

South Dakota State Dental Association, Sioux Falls, June 11th, 12th, 13th, 14th.

Tennessee State Dental Association, Monteagle, July 2d.

Vermont State Dental Society, Montpelier, March 20th, 21st, 22d.

West Virginia State Dental Society, Mannington, August 29th, 30th.

The Central Dental Association of Northern New Jersey—Annual Banquet.

For the period of twenty years, the Central Dental Association of Northern New Jersey has given a banquet yearly to its membership, and, incidentally, from feelings of hospitality, to all members of the profession, having made the invariable rule of extending invitations to those residing in adjacent cities.

Though a small society numerically, it will be a modest boast to say the Association is well known in the dental world, from its unique methods of conducting its regular meetings, in appealing to the social side of man, by its dinners always preceding its literary efforts, and extending the hand of friendship and hospitality to all visitors.

On Monday evening, the 18th of February, it will be twenty-one years old. We expect to celebrate the occasion with good speakers, good toasts, a good dinner at a reasonable rate, and last of all a most hospitable welcome. We have room for one hundred and seventy-five covers. You will no doubt receive an invitation. If not, it is only necessary to ask to be made one of us at the first dental dinner in the new century.

CHARLES A. MEEKER, D.D.S., Chairman.

29 Fulton Street, Newark, N. J.

Southern Dental Society of New Jersey.

At the annual meeting of the Southern Dental Society of New Jersey, after Dr. C. S. Stockton, of Newark, had read a very interesting paper entitled "Our Calling," the election of officers for the ensuing year took place, which resulted as follows: President, O. E. Peck, Bridgeton; Vice-President, Charles P. Tuttle, Camden; Corresponding Secretary, T. V. Smith, Jr., Camden; Recording Secretary, A. K. Wood, Camden; Treasurer, Mary A. Morrison, Salem. Executive Committee, A. Irwin, Chairman; J. E. Duffield, J. G. Halsey, E. E. Bower, W. A. Jaquette and A. B. Dewees.

Alabama Dental Association.

The thirty-second annual meeting of the Alabama Dental Association will be held in Montgomery, May 8th, 9th and 10th.

JOHN T. COOK, Secretary.

Montgomery, Ala.

Nebraska State Dental Association.

The twenty-sixth annual meeting of the Nebraska State Dental Association will be held in Omaha, May 21st, 22d, 23d and 24th.

LEAH MILLS, Secretary.

Omaha, Neb.

Vermont State Dental Society.

The twenty-fifth annual meeting of the Vermont State Dental Society will be held at Pavilion Hotel, Montpelier, March 20th, 21st and 22d.

GRACE L. BOSWORTH, Cor. Secretary.

Rutland, Vt.

Institute of Dental Pedagogics.

At the close of the eighth annual meeting of the Institute of Dental Pedagogics, held in Nashville, Tenn., December 27, 28 and 29, 1900, the following officers were elected for the ensuing year: President, George E. Hunt, Indianapolis, Ind.; Vice-President, Hart J. Goslee, Chicago, Ill.; Secretary and Treasurer, H. B. Tileston, Louisville, Ky. Member Examining Board to succeed H. W. Morgan, term expired, W. H. Whitslar, Cleveland, O.